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FARMER'S MAGAZINE,**

**A N D
Useful FAMILY COMPANION.**

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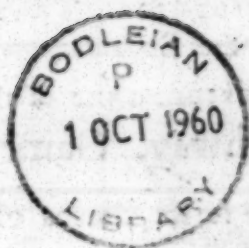
By AGRICOLA SYLVAN, Gentleman.

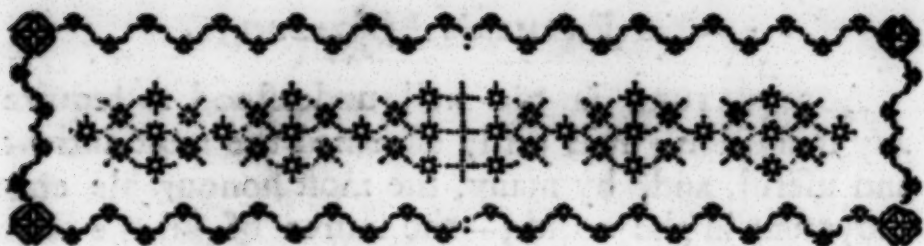
What makes a plenteous Harvest, when to turn
The fruitful Soil, and when to sow the Corn;
The Care of Sheep, of Oxen, and of Kine;
And how to raise on Elms the teeming Vine:
Is here display'd.

Dryden's Virgil.

Printed for R. SNAGG, No. 129, Fleet-Street, London;
And R. CRUTTWELL, in Bath;
And sold by every Bookseller, Stationer, and News-Carrier, in the Kingdom.

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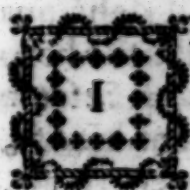


T H E

FARMER'S MAGAZINE.



A DISSERTATION on the Progress and present State of AGRICULTURE; with a concise Account of the best English Writers on the Subject.

N the following Dissertation the most inattentive reader cannot but observe, that men of the first genius and most exalted stations have in all ages indulged an inclination to cultivate the earth. This inclination, by which so many have distinguished themselves, is even now with the greatest propriety considered as the panegyric of Solomon, King Uziah, the younger Cyrus, Fabricius, Hiero, Masinissa, the Emperor Probus, and Charles the Fifth.* He will likewise see the most illustrious personages, after beating their swords into ploughshares and their spears into pruning hooks, return with raptures to cultivate their fields or their orchards; preferring an humble wain to a triumphal car, and the soothing shades of retirement to the splendid fatigue of a court.†

AGRICULTURE

* It is commonly known that the founders of three of the most renowned monarchies in the world were shepherds.—The subject of husbandry has been adorned by the writings and labour of more than twenty kings.—There are some prints still left of the antients' esteem for husbandry and their fashion of life in many of our surnames, and in the escutcheons of the most antient families, even those of the greatest kings, viz. the roses, the lilies, the thistle, &c.

Dryden's Preface to the Georgics.

† The importance of agriculture to a state will best appear when we come to treat of its progress and improvement in this country.

AGRICULTURE is too well understood to require any definition; it is justly esteemed the most antient and useful, and, by many, the most honourable employment in the world;—the source of all the conveniences, and of the far greater part of the elegancies of life.

Our first parents were placed in the garden of Eden to dress and to keep it; a most delightful habitation, richly adorned with all the rural beauties of nature; well watered, and planted with all sorts of trees that were either pleasant to the sight, or good for food. In consequence of their disobeying the divine command, the ground was cursed; and Adam was assured that it should bring forth thorns and thistles, and that (in contradistinction to the spontaneous and delicious fruits of the garden) he should in sorrow eat the herb of the field, which he himself must raise with intense labour in the sweat of his face, all the days of his life.

Adam instructed his children in this necessary art, both by precepts and example. We are told by the sacred historian, that Cain applied himself to husbandry, while Abel led the life of a shepherd, and contented himself with feeding his flocks.

It is probable that it never rained from the creation of the world till the flood, the earth becoming every day more and more sterile; insomuch that it was with the utmost difficulty a scanty subsistence could be raised for the inhabitants and their cattle; this, Lamech (the father of Noah) laments in very pathetic terms.

After the deluge, the earth was in a great measure restored to its original fertility, to which the mud deposited by the waters no doubt greatly contributed. Our great Creator likewise was pleased to promise Noah that he would not again curse the ground; that the seasons should no longer be so precarious; but, that in future, seed-time and harvest, cold and heat, summer and winter, and day and night, should succeed each other. Noah immediately began to be an husbandman, and planted a vineyard.

The descendants of Noah being dispersed into different countries, applied themselves to the practice of husbandry. The art was then indeed as simple as possible, and its operation principally confined to the procuring an immediate subsistence; and as the people led a wandering pastoral life, the progress in improvements must be exceedingly slow.

Egypt has always been reckoned among the first of the great kingdoms which were founded after the dispersion of mankind. The Egyptians, according to their own account, were first taught by their kings how to provide the common necessities and conveniences of life. No profession, however mean, was by them considered as sordid or ignoble. Husbandmen particularly, and those who took care of their herds and flocks, were held in great esteem; the most elevated ranks according to their estimation being furnished from them, not only with the necessities but even the delights of life. [In some parts of Egypt indeed, on account of religious opinions, feeders of cattle were held in abomination.] The son was obliged to practise the same trade as his father; and every person, on pain of death, was obliged to give in his name and method of procuring his livelihood: *Solon* borrowed this last when he travelled into Egypt, and introduced it among the Athenians. Their soldiers were not allowed to follow any manual occupation, but instead thereof each had nine acres of land allotted to him.

Their lands were divided between the King, Priests, and Soldiers, from whom the husbandmen rented them on easy terms; and as by the laws of Egypt the son was obliged to be of the same profession as his father, the Egyptians, by employing themselves so much in husbandry, became the most expert in that art of any people in the world. Their flax, especially one sort of it, was so exceedingly fine, and dressed and spun so curiously, that the threads could scarcely be seen; their fine linen being in the
greatest

greatest request all over the eastern countries. It has been said however, they had their flax from Upper Ethiopia of which they made the "fine linen of Egypt" mentioned in Scripture: the flax of that country being reckoned the finest in the world.

It is well known that the plenty and riches of Egypt depend upon the overflowing of the river Nile, which amply supplies their want of rain. By these annual overflows the Egyptians raised prodigious quantities of corn, and were so sensible of the blessing resulting from agriculture, that they superstitiously ascribed the invention of it to *Osiris*, and even more stupidly worshipped those animals which they employed in tilling the ground.

They have with vast labour cut numberless canals to receive the water as the river rises; these canals are opened by degrees, and the water husbanded very carefully. When Archimedes travelled into Egypt he taught them the use of his spiral pump [commonly called Archimedes's screw] to raise the water into the higher grounds; but it now seems to be disused, and other hydraulic machines which are worked by oxen employed in its stead. In some places however men draw it in wicker baskets, so close and well made that not a drop of water runs through. When Herodotus travelled into Egypt, the lower part was overflowed like a marsh; and this is supposed to be the reason (according to Dr. Shaw) that Sesostris made the canals to prevent such inundations, as well as to convey the water where it was wanted.

Their pastures are most excellent, the grass growing generally to the height of their cattle. The husbandman has but little labour in cultivating the ground; soon after the river is retired, he mingles a little sand with the soil where requisite, and then sows his seed. Hasselquist says, that at one of their sowing seasons the earth appears to be quite parched up, when they are forced to sprinkle the furrows with water. The ploughman carries a leather bottle of
it

it hung over his shoulder, from which a small pipe conveys the water into a tube that runs along one of the plough handles, and from thence to the back of the share, the moistened earth and seed being covered by the next bout of the plough : this slight watering produces astonishing effects. [The English farmer will consider whether he can with any propriety adopt this method of sprinkling the furrows of his arable land in a very dry time : a very small quantity of water being sufficient.]

Providence it seems has not intended the Egyptian husbandman should be idle ; for the time which in other countries is employed in dressing the ground, is by him employed in watering it.

Norden however observes, that Egypt is not that terrestrial paradise which many writers represent it to be ; but on the contrary, affirms, that no country wants more the aid of agriculture. The antient Egyptians, by means of dykes properly placed, prevented the return of the water into the river till the land was sufficiently enriched ; these dykes are peculiarly necessary in those years when the Nile does not rise so high as may be wished ; but all is now fallen into such utter ruin, and the water directed with so much partiality, that if the most pressing necessities did not compel the Arabians to work, Egypt would in one century be in a situation resembling Little Barbary adjoining to the Cataracts, where all the arable land is only twenty or thirty feet broad along the sides of the Nile. He adds, that their rejoicings at opening the Nile, so much exaggerated by Travellers, [perhaps he should have said the *Writers of Travels*] if we except the retinue of some of the Grandees, hardly exceeds what we commonly see at a village wedding.

The north, called the Etesian winds, which generally begin to blow about the latter end of May, drive the clouds formed by the vapours of the Mediterranean against the mountains of Ethiopia, where they

they condense and fall in rain; and soon after, the Nile, which has its source in that country, begins to rise. It rises several inches each day, till its height is forty feet or upwards. Dr. Shaw says, eighteen pikes high is but an indifferent Nile, twenty pikes is middling, and twenty-two a good one; but if it was to rise above 24 pikes, it would cause an inundation, and the water would not return soon enough for them to sow their corn: he could not learn however that any person ever remembered it to rise so high as twenty-four pikes. [A pike is two feet, two inches, and two lines.]

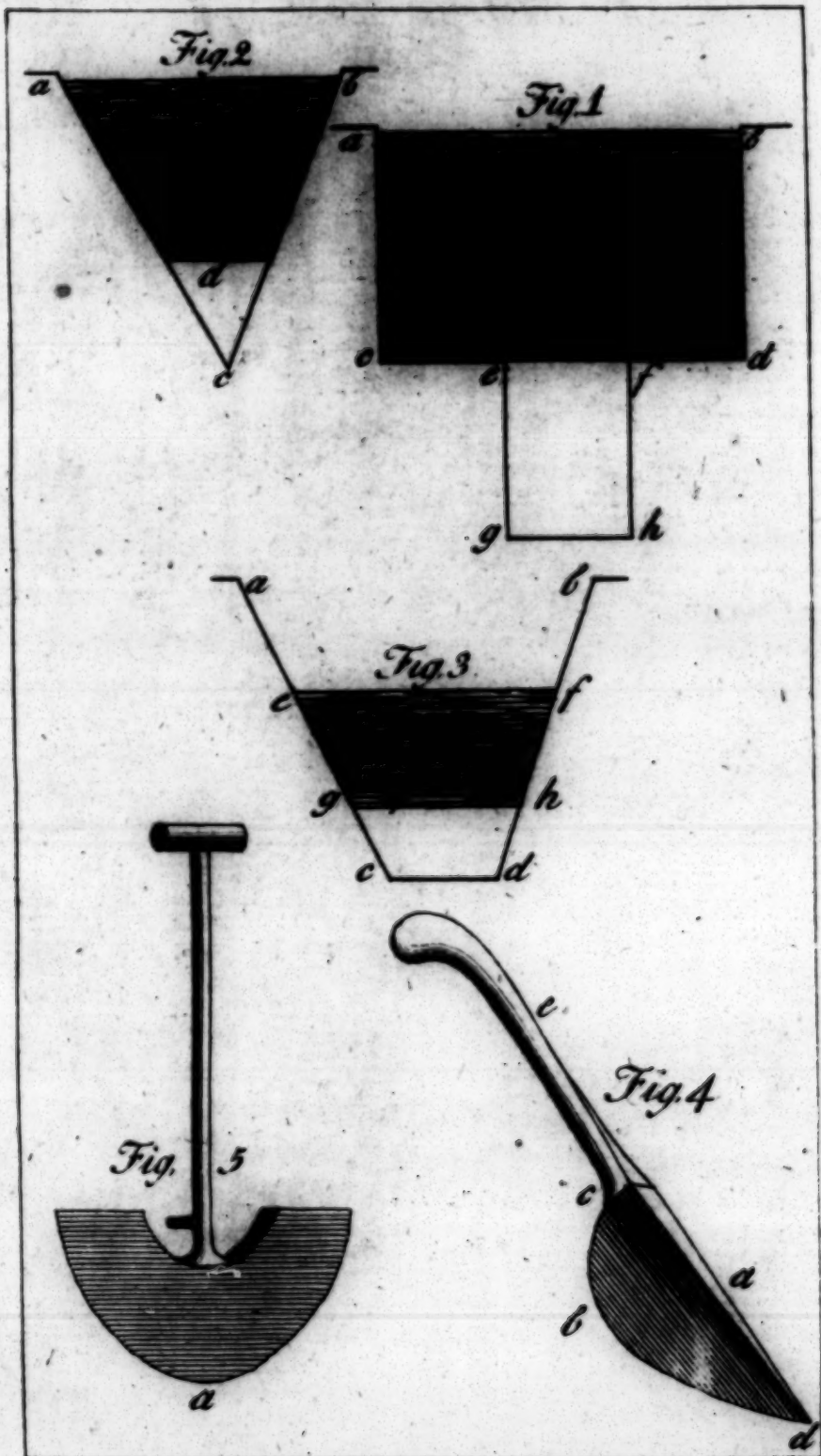
As soon as the north winds begin to blow, the plague commonly abates, and if the Nile rises sixteen pikes pretty quickly it entirely ceases. The Egyptians are of opinion that neither water, iron, nor wood will communicate the plague.

The Nile (contrary to other rivers) being highest in summer and lowest in winter, the antients were at a loss to account for it till Ptolemy Philadelphus sent some able persons to find out the cause. On the banks of this river grows the rush Papyrus, of which paper was first made.

During the reign of Amasis, (570 years before Christ) Egypt is said to have been perfectly happy in the fecundation of the Nile, and to have contained 20,000 populous cities: but plentiful as it was, and still is, earthquakes and pestilence had almost depopulated the kingdom about 700 years ago; and the famine was so great, that historians tell us, human flesh was publicly sold in the shambles.

We shall just add, that the Egyptians found out the method of hatching eggs without suffering the fowls to brood; they have likewise the art of fascinating or taming the most dangerous and venomous serpents.

[This subject to be resumed in our next, with the state of Agriculture among the Chaldeans, Phoenicians, Carthaginians, &c.]



ARTICLE II.

*Three different Methods of Under-ground Turf-Draining,
illustrated by Copper-plate Figures.*

THE very great service, and sometimes the absolute necessity of Under-ground Draining, is acknowledged, and in general pretty well understood; but the following methods of performing this with turf only, without stones, wood, &c. is not so generally known.

With respect to the size of these drains, which may be varied at pleasure, the farmer will of course be the best judge, as he only can tell what quantity of water he has to carry off his land. It was however necessary for us to adopt some determinate size in order to give an explicit account, and we have chosen the following as being generally practicable.

Fig. 1.—Dig out a perpendicular, clean turf, 10 or 12 inches wide and a spit deep, as represented in this figure by the letters *a, b, c, d*; then with a narrow spade dig out another spit of earth of any reasonable depth, in the bottom of the first, about 3 or 4 inches wide, in the manner described by the letters *e, f, g, h*, leaving a shoulder of earth at *c*, and *d*. The turf is now to be placed upon these two shoulders *c, e*, and *f, d*, with the grass downwards, and the top levelled with the loose earth. It is plain from the figure that if this work is executed with care, the open part *e, f, g, h*, will be sufficient to carry off the water, and will last many years.

Fig. 2.—This is called Pipe-draining. Dig out a triangular spit *a, b, c*, about 9 or 10 inches wide, and cut off 3 or 4 inches of the lower part: the spit is then to be put down again in the same place. The lower part from *d*, to *c*, will be open for the water to run off.

No. I.

C

Fig.

Fig. 3.—This will easily be understood. The spit of any necessary size being taken out sloping, as in the figure *a, b, c, d*, cut off the turf from the earth about 2 or 3 inches thick; then put it again into its place, and ram it gently down as at *e, f, g, h*, leaving several inches open below for the drain: observing to level the upper part *a, b, e, f*.

This work should be performed in the winter, and suffered to be perfectly dry and firm, and the sward united before any cattle are turned upon the land.

ARTICLE III.

A Description of two Instruments or Tools for cutting Drains, with Copper-plate Figures.

Fig. 4. **I**S an instrument for cutting open shallow drains or trenches, that is, such as require to be but a few inches deep. It is worked nearly in the same manner as the knife used in cutting hay ricks, and is the most expeditious method of any we recollect to have seen. A line is strained to direct the workman, who walks gently along all the time he is using it. The knife *a, b, c, d*, is about 10 inches long, and 5 inches broad in the widest part; *a*, the back, and *b* the edge; *c* is the handle, about 3 feet long; the whole instrument is placed in the figure nearly in the same position as when it is working.

Fig. 5.—Is an Half-moon. This is esteemed the best tool for a labourer to cut deep drains or trenches, for being thin and sharp it makes excellent work; nothing can be more neat or true. They are now made of different sizes and sold by the iron-mongers. If the point *a* be a little turned up like a scoop, it then becomes the best tool yet known for laying ant-hills, of which we intend to give a more particular account in our next.

ARTICLE IV.

The natural History of Annatto, so much used in colouring Cheese.

THE Annatto, Arnotto, or Rocou Shrub (as the Indians call it) grows plentifully in several parts of South-America. It is a woody plant, usually about nine feet high, and bears greenish-yellow flowers; these are succeeded by conical pods containing the seeds, which, when ripe, are of a beautiful crimson colour. From the pellicles of these seeds is prepared the true Annatto: it is also called Orlean, and Rocou. Some of the venders of cheese-colouring being unacquainted with the Indian name *Rocou*, boast of their having the true *Rock* Annatto. [It is possible indeed that Indigo and Annatto, from their sometimes having the appearance of broken fragments of a rock, may have been called *Rock* Indigo, &c.]

Its preparation is various. The Indians (who mostly cultivate the plant) macerate the seeds in lemon juice in which a species of gum has been dissolved; this yields the celebrated crimson paint with which they adorn their bodies.

Others rub the seeds upon the palms of their hands previously oiled, till the fine red film is peeled off, and thus obtain a transparent *fucus* little inferior to carmine. [It is commonly observed that Indian Lake does not mix well with water, but dissolves in spirit, and becomes wholly transparent in oil.]

Others again rub the seeds against the side of a bason in which is a suitable quantity of water; the colouring particles subside and are afterwards strained: this is excessively tedious.

The most common method to obtain Annatto in any considerable quantity is by steeping the seeds for some time in water, and then pounding them till they

are left white. The liquor strained through cane sieves and boiled, throws up a red scum, which is taken off and afterwards boiled down and formed into balls while it is soft: this is the sort that we import from Spain.

Good Annatto is moderately hard, and of a pretty deep but dull red, and sometimes verges to the saffron colour. It dissolves in rectified spirits, to which it communicates an high orange: hence its use in varnishes. Water acts very languidly upon it, as indeed from the manner of its preparation it is not possible it should dissolve in a simple aqueous menstruum. With the addition of pot-ashes however it readily dissolves without altering its colour. Wool or silk boiled in the solution receives a deep but perishable dye. [Some of the chymists assert too much when they tell us that acids turn all vegetable blue and purple colours red; and on the other hand, that alcalies change the vegetable red colours to a violet or purple; for Indigo is an exception to the former, and Annatto to the latter.]

Annatto has its use in painting, and an orange lake inferior to nothing for beauty may be prepared from it by boiling the Annatto with pearl-ashes and then precipitating the colour; but then it is extremely apt to fly,

Its most prevailing use is to colour cheese, for which purpose it is admirably adapted, inasmuch that no attempt to invent a substitute for it has yet perfectly succeeded. When a little genuine Annatto is imported it is soon bought up, and sometimes (though not always) it is mixed up in a shameless manner into what is called *cheese-colouring*, which the farmers to their cost too often experience. Some of them little think that they give a shilling an ounce to ragged fellows (who hawk it about) for old bricks ground to powder, mixed up with starch, and perhaps a little flag Annatto, and then coloured yellowish
with

with turmeric. This caution, which is founded on facts, is given to prevent their being thus imposed on in future, and to recommend their applying to persons of credit.

Though it may be impossible to give all the reasons why Annatto is become so very scarce, yet we cannot avoid observing, that while it was imported as an article for the silk-dyer, the varnisher, and the painter in miniature, it was to be procured genuine in any reasonable quantity; but when it was found to be so much superior to Sanders for colouring cheese, the demand became excessive, and the stock was soon exhausted. And indeed, when the manner of its preparation is considered, from which it may rationally be inferred that it cannot be obtained in *very large* quantities, and its being engrossed by the manufacturers of cheese-colouring the moment it is imported, we need not wonder at the difficulty in procuring the genuine sort, nor suppose that it passes through other channels instead of being brought to England;—but this, with proper deference, is submitted to the opinion of our readers.

It may not be amiss to inform those who have not seen it used in dairies, that the Annatto is dipped in the milk, and then rubbed against a smooth hard stone till the milk is of a reddish orange colour, which will be more or less bright according to the goodness of the Annatto, or colouring.

ARTICLE V.

On a Piece of Land that produced smutty Wheat being cured by liming it.

Mr. SYLVAN,

THE moment I saw the *Farmer's Magazine* advertised, I not only determined to purchase it, but likewise occasionally to furnish you with with some practical

practical observations. I observe from your address, that hints which are of a practical and useful nature will be attended to, rather than learned disquisitions on subjects that seem principally intended for the curious. If you think the following hint merits a place in your Magazine, which I can assure you is founded on experience, I shall expect to see it in your first number.

I am, &c.

April 5th.

X.

I have a favourite arable field not far from my house that I always took particular care to manure plentifully from my stables. I was assiduous in separating the litter from the dung, because I thought the former was not rich enough. I shall not trouble either you or your readers with the manner of my ploughing the land, the time of sowing it, or the quantity of seed; these are articles which other farmers understand as well as I do; and in short I have ever been of opinion that an industrious farmer, who has lived many years upon an estate, though he may have but a moderate capacity, is yet the best judge of the soil, and of the times and seasons for ploughing and sowing it.

The field being in proper order, I brined my wheat and then sowed it. The crop proved a very smutty one. I was rather surprized at this circumstance when I saw my neighbours corn free from this distemper. In the next course I was very solicitous to procure good seed wheat, and to have it well brined, and yet I had another smutty crop in return, while not a smutty ear was to be found in any of the adjacent fields.

On considering what should be the cause, I began to imagine that I had over-heated the soil (which is naturally good and warm) by manuring it in such a rich and liberal manner.

This

This determined me to try the effect of Lime, which is by many supposed to be a cold manure. The consequence justified this opinion. The field was limed all over; and I have not since observed any smutty ears, but the grains are remarkably fine and plump.

[This gentleman's sentiments perfectly coincide with our own. We have ever been of opinion that a judicious farmer, (though he may not in other respects be blest with shining abilities) who has resided many years in the same parish, must necessarily be the best judge of the soil and method of culture. With respect to lime being a *cold* manure, we shall only observe, that the reasons which we have sometimes heard in support of this opinion are by no means conclusive; but as we have just received a pretty long letter on the nature and properties of lime from an ingenious correspondent, which in *our* opinion throws considerable light on the subject, our readers will please to excuse us for the present, as our remarks (if any should be necessary) will appear with more propriety along with this letter, which we shall insert the first opportunity.]

ARTICLE VI.

A Receipt for Sore Eyes.

Mr. SYLVAN,

I Have sent you the following Receipt for Sore Eyes, which I think inferior to nothing of the kind. I can vouch for its good effects, having tried it so often in both man and beast; it is particularly good for humours in horses' eyes.

Take a pint of soft water, an ounce of white copperas grossly powdered, and a drachm of powdered camphor, and put the whole into a common quart glass

glass bottle; cork it, and tie a piece of bladder over the cork. Water will not easily act upon camphor, but if the bottle be shook several times a day, and exposed to the sun between whiles, it will in about a month be strongly impregnated with it: this eye-water will greatly improve by keeping.

To use it, pour a little into a spoon or tea-cup, (remembering to cork the bottle immediately,) and having dipped the end of your finger into it, bathe the eyes (which at first must be shut) pretty well. The eyes should be opened gradually, when a little of the water will run in; for if they are quite open at first the pain would be too acute. For horses, &c. use a soft rag.

It cools and repels those watery and sharp humours which sometimes fall down upon the eyes; the slighter inflammations generally yield to it without any other assistance; but in the more violent ones, evacuation by bleeding, &c. should be premised; the same to be observed for horses, or cattle.

I am, &c.

CLERICUS.

[White vitriol, or, as it is sometimes called, white copperas, has zinc for its basis; and if we examine the most celebrated and pompous receipts for sore eyes, we shall find that zinc, or some preparation of it, enters the composition. Lapis Calaminaris is the ore of zinc; tutty is its calx or impure sublimate; and the white flowers called pompholix are obtained from zinc by sublimation. Camphor has always been held in the highest repute in inflammations, whether internal or external. We shall observe, for the sake of our more unlearned readers, that the best method to obtain pure soft water for medicinal purposes (without distilling it) is by placing an earthen pan in the fields, at a considerable distance from the smoke of any town, to catch the
rain

rain as it falls from the clouds. The water should be put into perfectly clean bottles, and the corks well secured with wax; and if the bottles are put into a cool place, the water will keep sweet for several years.]

ARTICLE VII.

On the Difference between Cow Grass and Marle Grass.

Mr. SYLVAN,

I Shall be much obliged to you to point out to me the difference between Cow Grass and Marle Grass, having to no purpose enquired of several of my brother farmers; they say there is some difference, but what the difference is, or how to describe it, they frankly own they cannot tell. By your answering this question, you will oblige many farmers, as well as

Your humble servant,

J. B.

P. S. As you have undertaken to publish a *Farmer's Magazine*, it must be taken for granted that you understand these things.

ANSWER.

There is no essential difference between Cow Grass and Marle Grass; the *Cow Grass* of one county being the *Marle Grass* of another. If there is any seeming variation it is purely accidental, and owing to the difference of the soil, culture, &c. of which it is totally unnecessary to give any farther account.

ARTICLE VIII.

To procure fine Salt for the Table.

Mr. SYLVAN,

I Have often remarked when I dined with Sir S—r, that the salt used at his table was remarkably fine, resembling grated sugar. On my asking him where he bought it, he smiled, and said that he ordered a lump of clean salt to be laid before the fire till it was thoroughly hot, when it would concrete, and in short grow quite hard; that nothing more was then necessary but to grate it, and keep the remainder in a dry place. If this deserves a place in your Magazine you are welcome to it; for perhaps some of your readers may be as great strangers to this piece of elegance and frugality as I was before I asked the question.

I am, &c.

CONVEXUS.

P. S. I have no pretensions to fine writing.

[Our kind correspondent *Convexus* needed not to have apologized on account of his stile. Some of our readers will no doubt be pleased with his *piece of elegance and frugality*. For our parts we acknowledge ourselves obliged to him on more accounts than one; and indeed *frugality* is a circumstance of no small consideration to us; for authors, it is well known, can afford to dine but once a week. The late Sir J. H. said, the Monthly Reviewers (those very learned gentlemen) were allowed no more than four shillings a week and small beer. It is true, we can assure the public, that we are allowed no less; but was the advice of the very abstemious Dr. Cadogan to be adopted, and not only *ragouts*, high sauces, wines, &c. but likewise the common condiments, even salt,

salt, pepper, and vinegar, banished from the table, poor authors would then be enabled to dine as elegantly as my Lord, or his Grace. The Doctor however is certainly entitled to our thanks for his laudable endeavours to place us in a more respectable light.]

ARTICLE IX.

On the Benefit of sowing foul Land with Winter Vetches.

MR. SYLVAN,

SIR,

SINCE the value of land has been so much advanced, a farmer cannot very well afford to let his inclosed lands lie fallow. He finds it requisite to take a crop every year; and perhaps few occupations require more skill and care (whatever may be thought of simple husbandry, or of a farmer's contracted abilities by other people) to crop his land continually, and at the same time to keep it free from weeds and trumpery. It would lead me into a wide field was I to enter into particulars, and perhaps it would be superfluous to most farmers. What I at present intend is only to remark, that I have sometimes been at a loss to know what to do with a piece of land that has been foul, when, according to its course, I should have sown it with wheat. At other times (as every farmer knows) a piece of land, in spite of all our care and good management, will get out of order, and must on that account lie still; for we cannot command either the times, seasons, or weather, nor yet warrant success when they all concur. In these cases I have generally had recourse to winter vetches; nor in the whole course of my husbandry do I recollect to have used a more speedy or a more easy method

thod of bringing foul land into order, than by a good crop of Winter Vetches. I have not known it many years, and I see that many farmers are still strangers to this improvement.

As I have no other view than in recommending what I think advantageous to the public, I have sent you this remark; perhaps some of your readers will be glad of it, though no doubt there are many who already know it.

I am, &c.

A FARMER.

[We are much obliged to this Farmer; and as we have experienced the good effects of sowing Winter Vetches (or as some call them winter *thatches*) upon land that was over-run with weeds, we shall add a word or two on this subject. We need not enlarge on the great benefit of those crops, such as vetches and clover, which entirely shade and cover the ground, and consequently contribute so much to keep down the weeds and to meliorate the soil; but we much recommend a succeeding drilled crop as the best method to complete what the vetches or clover, &c. have begun. We have known a field so much over-run with that pernicious weed, the *black bent*, that a crop of wheat has hardly repaid the expence of seed and labour, which, on being sowed with winter vetches, and a succeeding hand-hoed drill crop, the weeds were effectually destroyed, and the land again brought into good order. We must however observe, that vetches do not always stand the frost, and this has deterred some farmers from sowing them; but as far as our experience extends, we have seldom known them to fail. At most, the expence of sowing them is not very great; and, as our correspondent observes, we cannot warrant a good crop of any thing,]

ARTICLE

ARTICLE X.

On Ploughing in green, or living Crops.

MR. SYLVAN,

SOME time ago as I was travelling the great western road, I could not help taking notice of a farmer ploughing in a fine luxuriant crop of clover by way of manuring his land. I have some little skill in agriculture, though I cannot pretend to understand it so well as I suppose you do; but I must confess that I was rather astonished at it, for I thought that this *outlandish*, wasteful, slovenly piece of husbandry had long since been abolished. I much wish to see the reasons in print which the advocates for it have to urge in its defence; for certainly sheep might have been folded upon it, and then the farmer would have reaped a double benefit; at all events it might have been grazed or mowed.

I am, &c.

VIATOR.

[Is *Viator* sure that the land could have been folded? Being entire strangers to the field in question, it must be impossible for us to say any thing decisive: yet it may not be altogether impertinent to add a few words. The Flemings were undoubtedly the first who ploughed in living crops to manure the land. However cogent their reasons might be, we cannot help joining issue with *Viator* in thinking, that in the present improved state of agriculture this practice is a shrewd sign of inattention and bigotry; not that we mean to condemn it in any single instance, but only the general practice of it; for we are fully persuaded that this and many other specimens of bad husbandry are sometimes unavoidable from a variety of causes which it would be needless at present to enumerate,

enumerate. If any of our correspondents chuse to give *Viator* a more particular answer, and to treat the subject more at large, we shall with pleasure insert it. In expectation of this answer, we have not at present thought it necessary to take any notice of Mr. Peters's *Winter Riches*.]

ARTICLE XI.

On the best "System of Husbandry."

Mr. SYLVAN,

I Have an inclination to buy a *System of Husbandry*; but there are so many published that I am quite at a loss to know which is the best. As you may probably be acquainted with their different merits, I shall be obliged to you to inform me which you would recommend to

A YOUNG FARMER.

ANSWER.

As we have already engaged, in our "Dissertation on the progress and improvement of Agriculture," to give an account of the best English writers on the subject, (not that we mean entirely to pass by or overlook those writers which we place in a lower class) we cannot consistently anticipate that part of our plan. If the *Young Farmer* will therefore have a little patience, he will be enabled to judge which will best answer his purpose. He will likewise see such *bare-faced plagiarisms*—

But we must not at present enlarge.

ARTICLE

ARTICLE XII.

Observations on the Premiums offered by the Society for the Encouragement of Arts, &c. to ascertain the proper Depth of ploughing on Clay or strong Land.

Mr. SYLVAN,

IN the list of premiums offered by the Society instituted for the Encouragement of Arts, Manufactures, and Commerce for 1776, are two, viz. No. 177, and 179, "To ascertain the proper depth of ploughing on clay or strong land."

With proper deference to the members of this illustrious society, I cannot see how these premiums can ever be adjudged with any propriety. If I understand the terms on which they are to be adjudged, it is taken for granted that clay or strong lands are precisely the same in all parts of the kingdom, which is such an absurdity that I cannot attribute such a misconception to so many sensible noblemen and gentlemen. Let us then for a moment view it in the other, which I take to be its true light; for which purpose I will suppose, what is a very supposable case, and what will be readily acknowledged as such by most sensible and judicious farmers.

A. B. is inclined to be a candidate. He has a field, the soil of which is a strong clay; he ploughs one half six inches deep as usual, and the other half ten inches deep. He finds the under stratum nearly of the same strength with the upper one, and seems to differ only in colour, but of such a pernicious bitter quality, that though he manures it richly he still finds his crops on that part of the field will hardly repay him for his trouble.

C. D. pursues a similar method, and obtains plentiful crops. His under stratum, though hardly to be distinguished by the naked eye from that in the field

field belonging to A. B. proves to be sweet and favourable to vegetation.

I now beg leave to ask, what conclusion can possibly be drawn from these two experiments in order to ascertain "the proper depth of ploughing in clay or strong land?" Besides, clay soils differ in their nature so much from each other, though seemingly alike, that nothing *generally* certain can be inferred from such kind of experiments. They may ascertain this, and no more, viz. the proper depth of ploughing in that particular soil where the experiments are made.

What has been said will at least equally apply to the experiments on the land intended to be laid down in grass for pasture. I have known this experiment tried many years since, and that part which was ploughed below its staple has not recovered its wonted verdure to this day; and I dare venture to believe, that the experiment will not be repeated in that parish, whatever it may be in others.

I would not have it understood however that I am an advocate for *shallow* ploughing; on the contrary, I always order my land to be ploughed *deep*, wherever I think it can be done with safety; for I am neither so credulous nor so stubborn as many farmers who, having once heard that a piece of land has been injured by ploughing rather too deep, resolve never to trust their ploughshares a quarter of an inch deeper than their great-grandfathers did before them; but I must still insist on the indecisiveness of the above-mentioned experiments.

I intend to give you my sentiments on the comparative advantages and disadvantages of deep and shallow ploughing, for your next Magazine. In the mean time,

I am, &c.

COLUMELLA.

P. S.

P. S. If I have misunderstood the Society's advertisement, I shall be much oblig'd to any gentleman to point out my mistake.

[We are extremely obliged to this gentleman, and wish to be more so. His pieces will be thankfully received, and inserted in our next Magazine after they come to hand.]

ARTICLE XIII.

General Rules for collecting, preserving, and distilling Herbs, Roots, Flowers, &c. which we think will be of general use; more especially as we intend to give an Account of their medicinal Virtues.

RULES for COLLECTING Herbs, &c.

1. **A**LL vegetables should be collected in a clear, dry day, as soon as the morning dew is gone off from them. The *aromatic* plants should be collected from warm, dry, sandy soils; the *fetid* plants from soils that are moist and rich.

2.—HERBS are to be gathered when the leaves have come to their full growth; before the flowers unfold, or at least before they begin to fall off.

3.—FLOWERS are to be plucked when moderately expanded or blown.

4.—SEEDS should be collected when they are growing dry, before they begin to fall off spontaneously.

5.—ROOTS are in the greatest perfection in the spring. Annual roots are to be taken up before they have sent out any stalk: Biennial ones, in the spring after the seeds were sown.

6.—BARKS are most conveniently shaved, or taken off in the winter, as at this time they separate most freely from the wood.

Rules for PRESERVING Herbs, &c.

1.—ROOTS are to be washed clean from dirt, freed from decayed or rotten fibres, and hung up in a dry,
No. I. E shady,

shady, airy place, 'till moderately dried. The thicker roots require to be slit lengthways, or else cut transversly into thin slices, and freed from the pith. Such roots as lose their virtues by drying may be preserved in dry sand.

2.—LEAVES are to be dried in the same manner as roots; for if dried in the sun they lose greatly of their colour and quality. The leaves of plants, in general, except the more juicy ones, are reduced by drying to about one fourth of their original weight.

3.—FLOWERS preserve their colour and virtues in greatest perfection when dried hastily by a gentle heat. It is erroneous to suppose that the sun's heat alone raises and impregnates the air with the odorous effluvia of vegetables. 'Tis when the air is *humid*, not when it is *warmest*, that odoriferous herbs and flowers diffuse their fragrance: exsiccated in a *warm, dry* air, they in good measure retain the flavour which an *humid* one though *cool* would totally rob them of.

Rules for DISTILLING Simple Waters.

1.—PLANTS and their parts ought to be fresh gathered, in order to obtain the most elegant waters.

2.—Having bruised them a little pour thereon thrice their quantity of spring water; though this quantity is to be diminished or increased according as the plants are more or less juicy than ordinary. If dry herbs are to be distilled, they will require a much larger quantity of water. In general, there should be so much water, that after all intended to be distilled has come over, there may be liquor enough left to prevent the matter from burning to the still.

3.—The heat should be sufficient to make the water boil, and the liquor distil in an almost continued stream. If the heat is considerably greater, the liquor will be apt to boil over, and the herb to be thrown
up

up into the head; if weaker, the virtue of the plant will be imperfectly elevated.

4.—The distillation is to be continued as long as the water which comes over is perceived to have any smell or taste of the plant, but no longer.

5.—If any drops of oil swim on the surface of the water, they are to be carefully taken off.

6.—That the water may keep the better, about one twentieth part of its weight of proof spirit may be added to it.

Many have been of opinion, that distilled waters may be more and more impregnated with the virtues of the subject, and their strength increased to any assigned degree by *cohobation*; that is, by re-distilling them a number of times from fresh parcels of the plant. Experience however shews the contrary; a water skilfully drawn in the first distillation, proves on every repeated one, not stronger, but more disagreeable. Aqueous liquors are not capable of imbibing above a certain quantity of the volatile oil of vegetables; and this they may be made to take up by one, as well as by any number of distillations: the oftener the progress is repeated, the ungrateful impression which they generally receive from the fire, even at the first time, becomes greater and greater.

[*This subject to be continued in our next.*]

ARTICLE XIV.

On a burning sandy Soil, that became worse by folding Sheep upon it, being cured by Chalk.

Mr. SYLVAN,

I Rent a farm in the West, of which great part is a light burning sand. Several farmers had been greatly disappointed upon this estate before I took

it; and indeed for some time after I had worked upon it, and sunk some money, (as we say,) in hopes of having a return, my hopes were much damped by seeing such slender crops.

As the farm is found I endeavoured to keep a large flock of sheep, and folded upon it, but without any good effect. I repeated the folding, but with no better success, for the ground burned so much the faster, that it seemed like adding fuel to the fire. But as the soil was deep enough, (though not a very deep one,) and as I believe that Providence generally blesses the endeavours of industrious people who have families to maintain, I did not despair of finding some remedy. My landlord, seeing that I took some pains with his estate, was never backward to encourage me.

The fault of my land, as I have already remarked, was its being too hot; and the sheep's dung, notwithstanding the benefit the fields received from the treading of the sheep, increased the fault. I then began to think, that if I could procure some good marle, or chalk, it might possibly cool the land, and then it might bear the fold. Of the former I could find none, and the latter was rather too far off; but what could I do? I therefore ventured to fetch some chalk, though at first it seemed rather too expensive. I had heard of the danger of over-chalking, and this, with the distance, naturally enough inclined me to spread it thin at first; and it was well I put on but little, for I have since found that the land does not require any thing near the quantity of chalk which some land does.

The consequence has fully answered my expectations; the land is sufficiently cool, and I can now fold upon it with success; for I assure you that few of my neighbours have prettier crops upon their heavy land. It is possible some other farmers may not have put this in practice, and others may not have attended to
the

* the principles of this experiment, so that you are
* welcome to publish it as soon as you please.

I am, &c.

[The benefit of chalk both on clay and sandy soils is well known; though we believe the circumstance mentioned by our correspondent has not been attended to so much as it deserves. But having a letter to lay before our readers containing experiments on chalking land twice, in order to ascertain its success, we shall reserve our sentiments, as they will then appear with more propriety.]

ARTICLE XV.

On dying Silk a very fine blue, green, purple, or lilack.

WE shall now present the Farmer's Daughters with a simple method of dying silk a fine sky-blue:—Put two ounces of oil of vitriol into a bottle with a drachm of powdered indigo, stir or shake it well several times a day for ten days or a fortnight, when the liquor will be of a very deep blue colour; this will be sufficient for a gown, and has often been sold for two shillings a bottle.

If the silk be white, the liquid will dye it of a lively blue; if the silk be yellow, it will change it to a fine green; and red, or pink, it will turn to a beautiful purple or lilac.

The Method of using it for a Gown.

Wash the silk perfectly clean, and then pour six or seven gallons of water into a tub, to which add the blue liquid and stir it well, taking care not to let the liquid stain your fingers. The silk being thoroughly
wet

wet with clean water, that it may receive the dye equally in every part, is to be put into the tub and agitated till the colour is to your liking; after which take it out, rince, and iron it with a warm iron. If the water be hot, or only warm, the dye will penetrate the filk more freely.

N. B. A few drops in a bafon of warm water will be fufficient for ribbons.

ARTICLE XVI.

On well manuring Land to prevent the Fly on Turnips.

Mr. AGRICOLA SYLVAN,

SIR,

I Am an old man, and I believe sometimes a little talkative; for I muft own that I love to tell my ftory in my own way. Providence has enabled me to provide for and fettle my children, and to retire to a fmall freehold of my own to fpend the remainder of my days without the encumbrance of much bufinefs. This being the cafe, I now and then amufe myfelf with reading; and as I feem to approve of your plan, I fhall buy the *Farmer's Magazine*, and occasionally fend you a hint or two (fuch as I think will be ufeful;) for I can affure you that I have had great experience in the farming way. You muft not expect a fine ftile from me; I am no great fcholar, but I fhall endeavour to write fo as to be underftood, which, by the bye, I take to be the principal end of writing.—[Solidly obferved, Farmer!]

Few people took more delight in having a good flock of fheep, and this on my eftate obliged me to raife a great many turnips. You know what fad havoc the fly makes, and what numerous fchemes have been

been recommended to prevent it, but all to little purpose. At first I suffered in common with my neighbours; but on considering the matter with some attention, I found out a method that, generally speaking, insured success. I don't pretend to say I am infallible, and that it always succeeded; but I observed in most years that some of the neighbouring farmers turnips were eaten by the fly, while mine continued to flourish.

My general rule in business always was, (and still is) to endeavour to make myself master of the disorder I wanted to cure, that I might not try too many needless experiments. I considered that the fly always attack the turnips while very young, for as soon as the leaf grows to any considerable size it is bitterish, and then the fly forsakes or refuses it; so that the quicker it grows the sooner it is out of danger. I therefore resolved to manure a piece of land very well in order to force the turnips, (if I may be allowed such an expression) and this answered my expectations.

I ever afterwards took particular care to dung the ground effectually that I intended for turnips, and if I had not manure enough I folded my sheep upon it; this occasioned the turnips to grow away very fast, so that they were soon too rank and too ill-flavoured for the fly.

I think that my method of sowing turnip seed is one of the best, for if the seed be good it never fails to come up in the driest time. My rule was every night (that is about six o'clock) to sow that part of the field which had been ploughed in the day: for while the earth is fresh, the seed soon begins to vegetate.

I am, Sir, &c.

W—shire.

AN OLD FARMER.

[The

[The preceding letter comes with peculiar propriety on account of the season for sowing turnips being at hand. We are no strangers to the peculiarly good effects of well manuring land for turnips in order to prevent the ravages of the fly, and wish it was more universally practised. In our next we shall (if possible) give a particular account of various remedies that have been proposed in different parts of the kingdom for this destructive insect.

We shall now observe once for all, that our correspondents need not be under the least uneasiness about their style or language. If they will be so kind as to furnish us with the *facts*, we will dispense with the *embellishments*, and shall take care to make a few alterations where necessary, so as to render their meaning intelligible, and at the same time preserve as much of the original as possible, that their sentiments may not be injured.]

ARTICLE XVII.

QUERIES *to be answered.*

Mr. SYLVAN,

PLEASE to inform me, what is the true standard weight of a guinea?

2dly.—How that uneasy sensation in the teeth, called setting them on edge, is accounted for?

I am, &c.

JUVENIS.

[We shall not anticipate the pleasure which some of our readers will receive in giving their own answers to these questions. Such as favour us with answers, are desired to send them by the 15th day of the month, at farthest.]

P O E T R Y.

WE could not think of any thing more proper, as an introductory piece, than the following poem, entitled "The THRESHER'S LABOUR," by the late Rev. *Stephen Duck*; who was at first (as every one knows) a poor labourer. Being afterwards introduced at Court, on account of his poetical abilities, he was handsomely rewarded, and soon after enabled to move in a much higher sphere.—Had he been contented in his native place and humble employment, a stranger to the Court, he probably might have lived happily, though poorly, and have sweetly ended his days in peace, and comfort.

The THRESHER'S LABOUR.

THE grateful tribute of these rural
lays,
Which to her patron's hand the Muse
conveys,
Deign to accept: 'tis just the tribute
bring
To him, whose bounty gives her life
to sing;
To him, whose gen'rous favours tune
her voice;
And bid her, 'midst her poverty, re-
joice.
Inspir'd by these, she dares herself pre-
pare,
To sing the toils of each revolving year;
These endless toils, which always grow
anew,
And the poor *Thresher's* destin'd to pur-
Ev'n these, with pleasure, can the Muse
rehearse,
When you and gratitude demand her
verse.

Soon as the golden harvest quits the
plain,
And *Ceres's* gifts reward the farmer's
What corn each sheaf will yield, in-
tent to hear,
And guess from thence the profits of
He calls his reapers forth: around we
stand,
With deep attention, waiting his com-
To each our task he readily divides,
And pointing, to our different stations
guides.
As he directs, to distant barns we go,
Here two for wheat, and there for
barley two.
But first, to shew what he expects to
find,
These words, or words like these, dis-

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" So dry the corn was carry'd from
the field,
" So easily 'twill thresh, so well 'twill
" Sure large day's works I well may
hope for now:
" Come, strip, and try; let's see what
you can do."

Divested of our cloaths, with flail
in hand,
At proper distance, front to front we
And first the threshal's gently swung,
to prove,
Whether with just exactness it will
That once secure, we swiftly whirl
them round,
From the strong planks our crab-
tree staves rebound,
And echoing barns return the rat-
tling sound.

Now in the air our knotty weapons fly,
And now with equal force descend
from high;

Down one, one up, so well they keep
the time,
The *Cyclops's* hammers could not
truer chime;

Nor with more heavy strokes could
Etna groan,

When *VULCAN* forg'd the arms for
THETIS's son.

In briny streams our sweat descends
apace,

Drops from our locks, or trickles down
No intercession in our work we know;
The noisy threshal must for ever go.

Their master absent, others safely play;
The sleeping threshal does itself betray.
Nor yet, the tedious labour to beguile,
And make the passing minutes sweetly
smile,

F

Can

Can we, like shepherds, tell a merry tale ; [der flail.

The voice is lost, drown'd by the lou-
But we may think—Alas ! what pleas-
ing thing, [bring ?

Here, to the mind, can the dull fancy
Our eye beholds no pleasing object here,
No cheerful sound diverts our list'n-
ing ear.

The shepherd well may tune his voice
to sing, [Spring.

Inspir'd with all the beauties of the
No fountains murmur here, no lamb-
kins play, [gay ;

No linnets warble, and no fields look
'Tis all a gloomy, melancholy scene,
Fit only to provoke the Muse's spleen.
When footy pease we thresh, you scarce
can know

Our native colour, as from work we go:
The sweat, the dust, and suffocating
smoke,

Make us so much like *Ethiopians* look,
We scare our wives, when ev'ning
brings us home ;

And frightened infants think the bug-
bear come.

Week after week, we this dull task
pursue, [a new ;

Unless when winn'ing days produce
A new, indeed, but frequently a worse !
The threshal yields but to the master's
curie.

He counts the bushels, counts how
much a day ; [away :

Then swears we've idled half our time
" Why, look ye, rogues, d'ye think
that this will do ?

" Your neighbours thresh as much
again as you."

Now in our hands we wish our noisy
tools, [and fools.

To drown the hated names of rogues
But wanting these, we just like school-
boys look, [book :

When angry masters view the blotter'd
They cry, " their ink was faulty, and
their pen ;"

We, " the corn threshes bad, 'twas
cut too green."

But soon as *Winter* hides his hoary
head, [spread ;

And Nature's face is with new beauty
The lovely *Spring* appears, refreshing
show'rs.

New cloath the field with grass, and
looming flow'rs.

Next her the rip'ning *Summer* presses on,
And *Soil* begins his longest race to run.

Before the door our welcome master
stands ; [hands.

Tell us the ripen'd grass requires our
The grateful tiding presently imparts
Life to our looks, and spirits to our
hearts.

We wish the happy season may be fair ;
And, joyful, long to breathe in op'ner
air.

This change of labour seems to give
such ease,

With thoughts of happiness ourselves
we please.

But, ah ! how rarely's happiness com-
plete ! [sweet.

There's always bitter mingled with the
When first the lark sings prologue to
the day,

We rise, admonish'd by his early lay ;
This new employ with eager haste to
prove, [our love.

This new employ, becomes so much
Alas ! that human joys should change
so soon ! [noon.

Our morning pleasure turns to pain at
The birds salute us as to work we go,
And with new life our bosoms seem
to glow.

On our right shoulder hangs the crook-
ed blade, [mead :

The weapon destin'd to uncloath the
Our left supports the whetstone, scrip,
and beer ;

This for our scythes, and these our-
selves to cheer.

And now the fields, design'd to try
our might,

At length appears, and meets our long-
ing sight.

The grass and ground we view with
careful eyes, [lies ;

To see which way the best advantage
And, hero-like, each claims the fore-
most place.

At first our labour seems a sportive race:
With rapid force our sharpen'd blades
we drive,

Strain every nerve, and blow for blow
we give.

All strive to vanquish, tho' the victor
guins,

No other glory, but the greatest pains.

But when the scorching sun is
mounted high,

And no kind barns with friendly shade
are nigh ;

Our weary scythes entangle in the grass.
While streams of sweat run trickling
down apace.

Our

Our sportive labour we too late lament;
And with that strength again, we vain-
ly spent.

Thus, in a morn, a courser have I
seen [green :
With headlong fury scout the level
Or mount the hills, if hills are in his
way,

As if no labour could his fire allay ;
Till Phoebus, shining with meridian
heat, [sweat :
Has bath'd his panting sides in briny
The lengthen'd chace scarce able to
sustain, [with pain.
He measures back the hills and dales

With heat and labour tir'd, our
scythes we quit, [sit :
Search out a shady tree, and down we
From scrip and bottle hope new strength
to gain,

But scrip & bottle too are try'd in vain.
Down our parch'd throats we scarce
the bread can get ;

And, quite o'erspent with toil, but
faintly eat,
Nor can the bottle only answer all ;
The bottle and the beer are both too
small.

Time flows : again we rise from off the
grass ; [place ;
Again each mower takes his proper
Not eager now, as late, our strength
to prove ;

But all contented regular to move.
We often watch, and often view the sun ;
As often wish, his tedious race was run.
At length he veils his purple face from
sight, [night.

And bids the wearied labourer, good
Homewards we move, but spent so
much with toil,

We slowly walk, and rest at ev'ry stile.
Our good expecting wives, who think
we stay,

Got to the door, soon eye us in the way.
Then from the pot the dumplin's
catch'd in haste,

And homely by its side the bacon plac'd.
Supper and sleep by morn new strength
supply ;

And out we set again, our work to try ;
But not so early quite, nor quite so fast,
As, to our cost, we did the morning past.

Soon as the rising sun has drank the
dew,

Another scene is open to our view :
Our master comes, and at his heels a
throng [and prong ;
Of prattling females arm'd with rake

Prepar'd, whilst he is here, to make
his hay ; [play ;
Or, if he turns his back, prepar'd to
But here, or gone, sure of this com-
fort still ; [their fill.

Here's company, so they may chat
Ah ! were their hands so active as
their tongues,

How nimbly then would move the
rakes and prongs !

The grass again is spread upon the
ground,

Till not a vacant place is to be found ;
And while the parching sun-beams on
it shine, [dine ;

The hay-makers have time allow'd to
That soon dispatch'd, they still sit on
the ground, [goes round.

And the brisk chat, renew'd, afresh
All talk at once : but seeming all to fear
That what they talk the rest will hardly
hear ;

Till by degrees so high their notes they
strain, [plain.

A stander-by can nought distinguish
So loud's their speech, and so confus'd
their noise, [voice.

Scarce puzzled Echo can return the
Yet, spite of this, they bravely all go on ;
Each scorns to be, or seem to be, out-
done.

Mean-while the changing sky begins
to lour, [show'r ;

And hollow winds proclaim a sudden
The prattling crowd can scarce their
garments gain, [rain ;

Before descends the thick impetuous
Their noisy prattle all at once is done,
And to the hedge they soon for shel-
ter run.

Thus have I seen, on a bright sum-
mer's day, [rows play ;

On some green brake a flock of spar-
From twig to twig, from bush to bush
they fly ; [sky ;

And with continued chirping, fill the
But, on a sudden, if a storm appears,
Their chirping noise no longer dins
our ears ;

They fly for shelter to the thickest bush,
There silent sit, and all at once is hush.

But better fate succeeds this rainy day,
And little labour serves to make the hay.
Fast as 'tis cut, so kindly shines the sun,
Turn'd once or twice, the pleasing
work is done.

Next day the cocks appear in equal
rows, [bestows,

Which the glad master in safe racks
F 2 The

The spacious fields we now no longer range; [we change.
And yet, hard fate! still work for work
Back to the barns we hastily are sent,
Where lately so much time we pensive
spent: [shade,

Not pensive now, we bless the friendly
And to avoid the parching sun are glad.
Yet little time we in the shade remain,
Before our master calls us forth again;
And says, "For harvest now yourselves prepare; [your care.

"The ripen'd harvest now demands
"Get all things ready, and be quickly
drest; [rest."

"Early next morn I shall disturb your
Strict to his word! for scarce the dawn
appears,

Before his hasty summons fill our ears.
His hasty summons we obey; and rise,
While yet the stars are glimm'ring in
the skies.

With him our guide we to the wheat-
field go,

He to appoint, and we the work to do.

Ye reapers, cast your eyes around
the field. [ties yield.

And view the various scenes its beau-
Then look again, with a more tender
eye, [lie!

To think how soon it must in ruins
For once set in, where'er our blows
we deal, [steel:

There's no resisting of the well-whet
But here or there, where-e'er our
course we bend,

Sure desolation does our steps attend.

Thus, when *Arabia's* sons, in hopes
of prey, [way,

To some more fertile country take their
How beauteous all things in the morn
appear! [here!

There rural cops, and pleasant villa's
So many grateful objects meet the sight,
The ravish'd eye could willing gaze
till night.

But long 'ere then, where-e'er their
troops have past, [waste.

These pleasing prospects lie a gloomy

The morning past, we sweat be-
neath the sun;

And but uneasily our work goes on.
Before us we perplexing thistles find,
And corn blown adverse with the rus-
sling wind.

Behind our master waits; and if he spies
One charitable ear, he grudging cries,

"Ye scatter half your wages o'er the
land." [dy hand.

Then scrapes the stubble with his gree-

Let those who feast on ease or dainty
fare, [pare:

Pity the reapers, who their feasts pre-
For toils scarce ever ceasing press us
now; [show;

Rest never does, but on the sabbath,
And barely that our master will
allow. }

Think what a painful life we daily lead;
Each morning early rise, go late to bed:
Nor, when asleep, are we secure from
pain;

Wethen perform our labours o'er again:
Hard fate! our labours ev'n in sleep
don't cease; [as these!

Scarce *HERCULES*: e'er felt such toils

But soon we rise the bearded crop
again, [den grain.

Soon *PHOEBUS*' rays well dry the gold-
Pleas'd with the scene, our master
glows with joy; [pjoy;

Bids us for carrying all our force em-
When strait confusion o'er the field
appears, [men's ears;

And stunning clamours fill the work-
The bells and clashing whips alternate
sound, [ground.

And rattling waggons thunder o'er the
The wheat, when carry'd, pease, and
other grain, [plain;

We soon secure, and leave a fruitless
In noisy triumph the last load moves
on, [done.

And loud huzza's proclaim the harvest

Our master, joyful at the pleasing
sight,

Invites us all to feast with him at night.

A table plentifully spread we find,

And jugs of humming ale to cheer the
mind;

Which he, too gen'rous, pushes round
so fast, [the past.

We think no toils to come, nor mind
But the next morning soon reveals the
cheat, [repeat;

When the same toils we must again

To the same barns must back again re-
turn, [year's corn.

To labour there for room for next

Thus, as the year's revolving course
goes round, [found:

No respite from our labour can be
Like *Sisyphus*, our work is never done;

Continually rolls back the restless stone.
New-growing labours still succeed the

past; [last.

And growing always new, must always

CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC

A Candid

A Candid REVIEW of NEW BOOKS.

A Treatise on Cattle: shewing the most approved methods of breeding, rearing, and fitting for use, horses, asses, mules, horned cattle, sheep, goats, and swine; with directions for the proper treatment of them in their several disorders: to which is added, a dissertation on their contagious diseases. Carefully collected from the best authorities, and interspersed with remarks. By John Mills, Esq; Fellow of the Royal Society of London, Honorary Member of the Dublin Society, of the Royal Societies of Agriculture at Paris and Rouen, of the Oeconomical Society of Berne, and of the Palatine Academy of Sciences and Belles-Lettres. London, Johnson, St. Paul's Church-yard; 7s. bound.

THE subject matter of this treatise being of such importance to the farmer, we have taken this early opportunity of introducing it to our readers. Mr. Mills, in his preface, says, "This work was first written several years ago, and delivered to the publisher, in order to its being printed then as a continuation of my System of Husbandry: but unhappily for Mr. Johnson, a dreadful fire consumed his house in Pater-noster-Row, together with all his stock in trade, and my comparatively insignificant manuscript. A rough copy of it chancing, however, to remain among my other papers, &c. at the request of Mr. Johnson I sat about recomposing it, as speedily as an infirm state of health, and some unavoidable avocations which intervened, would permit. The Treatise now offered to the public is the result of that second labour; in the prosecution of which, the most approved writers of different countries, and the practical experience of some judicious friends in this [country] have been my principal guides."

An impartial reader will be apt to conclude from this account that Mr. Mills has written but little if any from his own experience. We cannot but think that a compiler ought to have a considerable degree of knowledge, joined with experience, in the disorders to which the several species of cattle enumerated in the title-page are liable; and likewise, an equally competent skill in their respective treatment and method of cure; and that, as it is principally intended for the husbandman, (who

(who is never considered as a man of letters) the language should be plain and expressive, and the recipes few and simple as possible. How well Mr. Mills has acquitted himself in these respects, is our business now to consider.

The Treatise is divided into eight books; one book being solely appropriated to each of the several species, and an additional one to their contagious diseases. As we have several well-written books of farriery, which are in almost every one's hand, a *very particular* account of the first part will be deemed superfluous; we shall therefore only make such remarks as will enable our readers to form a proper estimate of its merit.

The first chapter is intended to teach us how to judge of horses from their outward appearance, &c. "But as husbandmen may not be acquainted with the various technical terms which must necessarily occur in the course of this subject; and as a horse cannot be described in a manner satisfactory to such readers, without previously explaining the sense of those terms, defining the several parts of his body, and noticing their perfections and defects; it will be proper to give here an explanation of some of the least generally known, though not least important to be understood."

In describing the several parts of a horse, Mr. Mills says, (page 3) "The parotid glands, which are situated between the ear and the locking of the under jaw, are called the *vives*." We believe few farmers will be much benefited by this definition of the parts, especially when it is compared with what we read in page 156; "the *vives* is an inflammation or obstruction of the *parotid glands*." "Farriers" says Mr. M. *ibid*, "seem to have delighted in calling disorders by names which have no sort of affinity to either the complaint itself, or the part affected by it: such as lampas and barbs, and *vives*, or *ives*." In so few words we rarely meet with so many contradictions.

It would much exceed the limits of our plan to follow him through his description of the several parts; but we cannot help observing a free use of technical terms, such as *incisories*, *maxillary*, *humerus*, *metacarpus*, *tendo Achilles*, tho' he professes to describe the parts in a manner *satisfactory* to the husbandman.

Mr. Mills next proceeds to give an entertaining account of the several breeds of horses, with the distinguishing characteristics of each, viz. the Arabian horses, the Barbs, the Turkish, Spanish, Italian, Danish, German, Dutch, Flemish, French, and English horses, as being the kinds with which we

we are best acquainted; this is followed by another equally entertaining account of the horses in the more distant countries, (borrowed from Mr. Buffon) which we would gladly transcribe, but for want of room it must be reserved for some future number; and shall, with Mr. Mills, "return to the horses of this country."

"When Julius Cæsar invaded this island he found its inhabitants (p. 56) abundantly provided with horses so well disciplined as to strike the Romans with admiration, and even terror." However well *disciplined* or *numerous* they might be, this can be no proof of any extraordinary size, or breed. Mr. Whitaker, in his History of Manchester, says, "the ancient British breed of horses is now to be found in the Scotch garrons, the Welch ponies, and the foresters."

In treating of disorders of the eyes, Mr. Mills observes, (p. 138) that "as millepedes conduce much towards the clearing the sight in men, so the use of them may be recommended here at least as a thing that can do no hurt; which is saying not a little of a medicine." This medicine, according to Mr. Mills, (though, by the bye, he does not tell the farmer how it is to be applied) is at least as good as *Dr. Laff's* vinegar and chalk, and from the account given of their pretended virtues by the best writers, we think it no better. [See an incomparable receipt for disorders in horses eyes, p. 15 of this Magazine.]

The next section treats of the glanders. Mr. Mills begins with informing us positively, that this disorder is both *incurable*, and *contagious*. Why then did he say any thing more about it? He will answer, (p. 139) that "of late some hopes of surmounting this disease have been entertained." Here is another contradiction; but to be impartial, we will attend to the account which he has transcribed from the farriers to the King of France;---we suppose he meant the *French King*.

M. de la Fosse was of opinion that the true seat of the glanders is in the *pituitary membrane*, and that the disease is altogether local; for on syringing into the nostrils a corrosive liquor, he brought on the same symptoms in an horse that was perfectly sound. There is certainly nothing very wonderful in this; such a corrosive liquor would naturally inflame and ulcerate the parts, and the discharge must be through the nostrils; but the ulcer or ulcers thus occasioned can no more be *contagious* than the poll-evil or the fistula. It is well known that M. de la Fosse had recourse to the trepan (a cruel operation)

operation); and after the experiment, which, it is said, succeeded, the horses were all put to death.

We next have a different account, and the disease pronounced to be in the *humours*. M. Servier accordingly undertook several, and still continues to treat glandered horses on these principles with *various success*. Lastly, M. Bourgelat (p. 150) says, "the glanders baffles every means hitherto tried to cure it, whether by the trepan, injections, or by internal medicines"—And so much for the hopes we are to entertain of *surmounting* this disease.

Mr. Mills's own account of the probable cause and method of preventing this disorder is too curious to be passed over in silence. He attributes it to horses drinking *running* water, and their being *obliged* to dip their *nostrils* into the water when they drink; and therefore recommends their never having quite cold water, and their nostrils being *wiped* when they have done drinking; (p. 64.)---*risum teneatis*.

In the section which treats of *Cutaneous Diseases*, Mr. Mills says, very justly, that "Nature affords us in the spring, and during the beginning of summer, one of the most efficacious, as well as universal *alteratives*, in the juice of succulent plants then in vigorous vegetation;" but "in order to kill or force out the worms which the grass may have engendered in the horse, he should be made to take a pound of fresh butter, and half an ounce of mild sublimate in powder mixed," p. 234-6. There being no such mercurial preparation sold in the shops, should the farmer's servant or the apothecary's apprentice mistake mild for *white* sublimate (by which name the corrosive sublimate is frequently sold in the country) the consequence would be fatal indeed. Not much less reprehensible is his "MOST EFFECTUAL mercurial application in cutaneous eruptions;" viz. "a solution of corrosive sublimate in brandy, a pint of which will suspend half an ounce of the sublimate; this solution, which he says will seldom require to be weakened, he recommends to be applied in curing a species of the *wet surfeit*, a disease in which the "*whole body* of the horse is frequently subject to gatherings and swellings, and as fast as they are assuaged or removed, others succeed." p. 244-5.

We do not believe that a pint of genuine brandy will suspend half an ounce of the sublimate, spirits not being its proper menstruum; but admitting the fact (for we shall not try the experiment) the solution would be acrid and corrosive beyond conception. The best physical writers and chymists
never

never direct more than *one drachm* of sublimate to a *quart of water*, and then to be farther diluted and *sparingly* used. [Vide Quincy, James, Lewis, &c.] Mr. Mills has precluded himself from replying to this, by observing, (p. 203) that "the general construction of the body being similar in other animals as in man, the same reasoning and *treatment* will nearly answer in both." And yet, in p. 239, he recommends the Antimonial Ethiops as the best preparation for an alterative, because the other preparations of mercury are too acrid to be given for the purpose.----Is *calomel* too acrid to be given as an *alterative*? But it is time to proceed to the other parts of the treatise.

The section *Of Shoeing* is short indeed, and beneath all contempt. "It is sufficient," says Mr. Mills, p. 265, "that the shoe be wide enough to defend the horny part, or rim of the hoof, beyond which it should not project." If he had consulted *Reeves's Art of Farriery*, (which is never once mentioned, though he seems to have purloined so much from it) he might have learned, that the hoof is *almost* a quarter of an inch thick. Who besides Mr. Mills thinks a *quarter of an inch* a sufficient breadth for the web of a shoe in flinty or stony roads? We have known this method attempted, and the consequence (as might be expected) was a separation of "the whole hoof from the foot." We shall now pass on to Book 4th, which treats of *Horned Cattle*; and as there is no valuable treatise that we recollect on the disorders of neat cattle, we shall gladly attend to what he says on this very interesting subject.

Mr. Mills begins the fourth book thus: "The Ox is the most valuable of horned cattle: he costs but little to keep [we do not very well know what he calls *little*, and therefore we shall go on] and yields a considerable profit; is very good for draught, and for the plough; subject to few diseases, and those easily cured."---What, is the *Scour* a disorder EASILY cured? A scouring ox or cow may be just as easily cured as a rotten sheep, or a glandered horse; but so it is when a person attempts to compile a treatise on subjects with which he is so little acquainted.

Of fattening cattle, p. 303, Mr. Mills says, "The age at which oxen are generally fattened is their tenth year." Who eats ox beef TEN years old?

Mr. Mills observes, p. 306, that when oxen or heifers are fed for the butcher with *lucerne*, the fat will spread itself thro' the lean like veins in marble."---Indeed! Did Mr. Mills ever

see any fat ox beef that was not thus interlarded? he ought to have known that this is a distinguishing characteristic of ox beef.

In p. 307, 308, Mr. Mills gives us "the *true reason* why the ox never injures the pasture in which he lives. As he crops only the extremity of the long herbage, he does not affect the root, and retards its growth but VERY LITTLE; whereas the sheep and the goat, by biting the herbage very close, both destroy the stem and injure the crown of the root."

---Fie on our English farmers for keeping so many sheep to destroy their pasture lands! ---To this may be added what is said in p. 236: "The aftermath, or [lest his readers should not know what that is] second growth after mowing, is not good for horses either green or dry." So says the writer of a "System of PRACTICAL Husbandry!"

We are now at p. 311, where we are told that "cows when pregnant should be put into the richest pastures, and for six weeks or two months before they calve, they should be fed more plentifully than usual."---Mr. Mills could hardly have prescribed a more certain method of destroying both the cow and her calf, abortion aside. Were cows to be "fed so plentifully" for two months, or even six weeks, before they calve, their udders would be distended to so great a degree, as would bring on such a violent fever, the yellows, &c. that no human skill could ever subdue. It is often difficult to prevent these symptoms when a cow is turned out to graze before she calves; and this Mr. Mills might have learned if, instead of searching into books of *natural history*, he had consulted a common dairy-man.

What Mr. Mills says about fattening a calf speedily, and at the same time rendering his flesh fine and delicate, we dare believe will be entirely new to the generality of the dairymen in this kingdom. "He [the calf] should have every day about half a dozen raw eggs, and crumb of bread boiled in milk. This, in four or five weeks time, will render his flesh excellent. Calves intended for the butcher should therefore not suck above thirty or forty days."---Forty milch cows may be considered as a middle-sized dairy: now suppose that twenty of the calves are *destined to the knife*, and that each calf is daily allowed six eggs for thirty days, then the whole number of eggs required will amount to THREE THOUSAND SIX HUNDRED. If we were thus to calculate for a dairy of four-score or an hundred cows, the number of eggs would amount to----but we will leave the farmer's son to make the

the calculation, and likewise to calculate how many fowls his sister must keep to furnish annually so many thousand eggs. But we have not done with these curiosities; they come so fast as to tread upon one another's heels. Some fly, cunning gypsey of a dairy-maid seems to have taken advantage of the old gentleman's ignorance and credulity: hear what he says about the runnet.

The clods [clots of curdled milk, which are found in the third and fourth stomach of a sucking calf, are, after being dried in the air, the rennet [runnet] made use of for curdling milk. The longer it is kept the better it is; and a very little of it is sufficient to turn a larger quantity of milk, as is well known to all who keep dairies. p. 314, 315.

A little below, Mr. Mills directs the dairy-maid "to take great care that the milk do not remain in any leaden vessel till it contracts the least degree of acidity; for if it does, it soon dissolves part of the lead, a *very little* of which will occasion the most dangerous disorders in the stomach and bowels. How is this to be reconciled with p. 165, where we are informed that sulphur and *lead* operate with such certainty in an asthma, as not to leave room to *wish* for any thing better."

Page 316 presents us with Chap. 5 --- *of the Diseases of Horned Cattle*. The whole is comprised in SEVEN PAGES of rather loose print, from which our readers will easily judge of the accuracy with which he has treated this important subject. He tells us that "the treatment before directed in the several diseases of horses is, in general, in similar cases, so applicable to the whole species of animals, commonly distinguished by the appellation of *horned cattle*, that little remains to be added here." Again, "the cure of internal diseases in cattle is so nearly the same as for horses, and the doses of their medicines so much alike, that a repetition of them here seems needless." How far the public may be satisfied with such an imperfect account, is not our business to determine, but we must confess that we hoped for better things. We cannot however very well resist the temptation to insert the following new and curious remarks.

"Neither swine nor hens should come near their cribs [how?---no *hens*---why Mr. Mills was saying but now that the farmer would want we cannot tell how many thousand *eggs*] "for," he adds, "when an ox has swallowed hens dung with his food he is presently tormented with violent pains in his belly; and when he swells with it he dies."---If he *swells* with eating hens dung he will, as children say, *die after it*.

" But if an ox swallows hogs dung he is presently seized with so contagious a disease that it speedily affects a whole herd.---When therefore there is the least suspicion of this distemper, the cattle must be removed and separated to pastures where none such have been fed, that so they may not hurt one another; for by feeding they infect the grass, and the water by drinking of it. An ox though otherwise in perfect health, may perish by the smell and breath of the diseased blowing upon him." We never before knew the *cause* of the distemper among the horned cattle. Mr. Mills has at once confuted all that *Camper, Monchy, Layard, Dossie, &c.* have written, and proved all their opinions to be erroneous and groundless. Nothing more therefore is now wanting but an act to prevent those propagators of the distemper, the *cow-leaches*, from giving any more of their drenches composed of *hogs-dung* and milk.

Our readers will hardly expect us to take any farther notice of a work which abounds with so many mistakes, absurdities, and contradictions.* The few that we have selected will justify this censure. It is with regret that we speak so freely of a work that is written by an *Honorary Member* of so many illustrious societies; but our duty to the public, as *Reviewers*, cannot be discharged without giving an impartial account; and in this respect, *titles* and *distinctions* of every sort and degree must sink in the *AUTHOR*; and as we are not even personally acquainted with Mr. Mills, it cannot be supposed that we are either influenced by envy, or prompted by revenge.

* In page 408-9, Milfoil is said to be an excellent food for sheep, and highly pleasing to them.—But in p. 436 it is ranked with those plants which occasion *contagious* diseases, and therefore ought not to be suffered to grow in meadows.—Having mentioned contagious diseases, we are reminded of those excellent and well-written "Observations on the Murrain, &c." by the ingenious Dr. Dossie, which, as far as they relate to neat cattle, we think much superior to those abridged from *M. Barberet*, by Mr. Mills, and heartily wish they were in the hands of every farmer in Europe.

A Treatise on Forest Trees; containing not only the best methods of their culture hitherto practised, but a variety of new and useful discoveries, the result of many repeated experiments; as also, plain directions for removing most of the valuable kinds of forest trees, to the height of thirty feet and upwards, with certain success; and, on the same principles, (with as certain

certain success) for transplanting hedges of sundry kinds, which will at once resist cattle: to which are added, directions for the disposition, planting, and culture of hedges, by observing which, they will be handsomer and finer fences in five years, than they now usually are in ten. By William Boutcher, nurseryman, at Comely-Garden, Edinburgh.----Murray, London; 4to. price 15s. boards.

OUR very sensible neighbours on the other side the Tweed have of late nobly exerted themselves in improving the face of their country. The traveller is not so much disgusted with that "sullen power of useless vegetation." The lands formerly "bare of grass and very fertile of thistles," now produce flowery pastures and waving harvests; their wretched, miserable huts are changed into comfortable houses; and the once dreary, treeless deserts, are now "*waving their leaves.*"----Much more however remains yet to be done; for in many parts, as Mr Pennant observes, these recent improvements look like the works of a new colony in a wretched, impoverished country.

The art of *planting*, till of late, was in general but indifferently understood in our sister country; and we learn from Mr. Boutcher, that many of the nurserymen practised so much fraud, that the laudable attempts of the nobility, &c. to improve their estates by planting them with forest trees, have not been attended with the wished-for success. It is not therefore at all to be wondered at, that an useful Practical Treatise on this subject should be honoured with such a respectable list of subscribers. We have indeed ever considered the Scots as a people of a generous, liberal disposition, and therefore we could not but attribute those invidious reflections so often, and so unfeelingly, cast on both them and their country, to the rancour and resentment of a disappointed party. But notwithstanding this seeming predilection, we shall not hesitate freely to declare our disapprobation of the work before us, if in the course of our review we shall find it to be reprehensible.

The preface being a pretty long one, we shall review it with some attention: "In the books hitherto published on the cultivation of Forest Trees, (says Mr. B. page ii.) the rules have been very [we wish he had said *rather*] short and confined: their authors seem generally to have adopted the opinion, which yet unhappily prevails amongst the greatest number of unexperienced planters, that when they have put a
young

young tree in the ground, they have done their duty, and that their labours are at an end; but such are somewhat like unnatural parents, who neglect to lead and foster their infant offspring; since trees, as well as animals, must have food and discipline to rear them to strength, maturity, and good order. These books contain *no* more [we think we should have said *little*] than sowing the seeds, planting the cuttings, or laying down the branches in their proper season, there to abide a certain time, and from thence to be transplanted to the nursery, where they are to continue two, three, or four years; from the nursery, to be removed to the places where they are meant to remain for good; and thus the business is at an end."---These observations are in *general* strikingly just; we frequently observe young trees not *planted*, but rather *dibbled* into the ground, there to remain for timber, to which however thousands of them never arrive. To justify our remark on Mr. B.'s too general censure of the books on the cultivation of forest trees, we shall give the following quotations from *Cook* and *Langley*. Cook, who was a gardener, and cotemporary with Evelyn, says, p. 49, "there is a great deal of reason to be given that the oftener you remove a tree, the likelier it is to grow when it is recovered again."---In the next page he offers four reasons in support of this opinion.

Mr. Langley, p. 7, says, "that the often transplanting of trees in nurseries causes them to be much better rooted, and more likely to grow, than those that have been very seldom or ever [never] removed, since their first transplanting from the seed bed; adding, "we should therefore be careful how we buy trees from nurseries, where they have grown, without being transplanted every third or fourth year at longest." Again, speaking of a plantation, "you must also with all care and diligence displace all the lateral buds in the spring." P. 15. [We shall have occasion to say more on this subject hereafter.]

Mr. B. is pretty severe on the nurserymen, though he pays a deserved compliment to the nurserymen in the South of England. What follows being contrary to the "almost universally received opinion, that trees ought to be raised in the nursery on a poorer soil than that to which they are afterwards *transplanted* for good, we shall make no apology for laying it before our readers.

"I must" (says Mr. B. p. xvi.) acknowledge this doctrine has a very specious appearance at first view; I adhered to it in early life, and it is so seemingly consistent with nature, that

that I am not surprized it has been generally adopted by young planters; at the same time, I cannot account for those who have had much practice, and long experience, not exposing the errors of it."

"In the following sheets I have given some examples, from frequently repeated experiments, of the ill effects I have felt by planting young and tender seedlings in the poorest soils, and the greater success attending those that are well-grown, on the same, or in similar situations. The consequences of raising plants on poor hungry land, are no less fatal than planting the seedlings in such, and should as much as possible be avoided. I have mentioned in the culture of many trees, the necessity of promoting their vigorous growth at first, in order to their becoming stately and handsome; nor can this be effected by any other means than being early nursed in a generous soil, for whatever future purpose they are meant, or to whatever situations they are destined: and that if they are but barely supported from infancy on meagre ground, they will never afterwards become strong, though removed to that which is rich and *feeding*. The causes for this, when the subject is searched to the bottom, are demonstrably plain: from their harsh and unfriendly food they contract diseases, which, if not immediately mortal, are certainly incurable; they necessarily have bad roots, they are [become] hide-bound, and their branches weak and crooked; in short, though they may long languish in the state of bushes, they will never arrive to the magnitude of what may properly be called trees."

Old Cook started this notion; "let me be bold to tell you, (says he) that *one* ash-tree raised in a *nursery*, and ordered as is hereafter shewed, is worth *FIVE* taken out of a wood." P. 3.

The planting of trees designed for timber is too frequently performed by common labourers. The plants being raised in a rich warm soil in a nursery, are often removed to a much colder, and, in a comparative sense, more barren one; and are likewise more exposed to the cold, bleak winds. It can hardly be supposed that the trees can greatly flourish under such unfavourable circumstances. On the other hand, when the plants are taken from an uncultivated spot where they naturally grew, and transplanted into a fresh and richer soil, they will thrive amazingly; and this we take to be the probable source of the above mentioned opinion, which Mr. B. has combated with success; for there can be no doubt but that a plant which is raised upon a good soil, and transplanted into another equally good, will grow faster, finer, and stronger, than by either of the other methods.

Mr.

Mr. B. very justly recommends soil for raising trees that is naturally good, before that which has lately been forced and pampered with dung; the latter being more baneful to them than even the poorest soils. If the land be well dunged, and the plants soon after removed into it, the roots will blister; these blisters contain vermin which, by preying on the roots, contaminate the juices of the tree; and though, from its having been nourished in such kind of hot-bed, it may be very luxuriant for a time, yet the tree will afterwards become ugly, hide-bound, and scabby, and in short grow annually weaker till it perishes.

"It is a frequent observation made by men advanced in years, that from the small size of trees usually planted, they cannot hope to see them in any great degree of perfection during their lives;" but "by following the rules here laid down, (says Mr. B. p. xxi.) this discouragement will be entirely removed."—Our readers will, no doubt, be glad to see the rules laid down by the practical and intelligent Mr. B.; but as this article is extended to its due length, we must reserve them for our next number.

C O R R E S P O N D E N C E.

OUR obliging Correspondents will see that this first number can be considered as little more than an introduction to the work; yet if we may be allowed to form our judgment from the nature of these few introductory pieces which we have selected from a multitude of others, we think they will have no reason to suppose that the FARMER'S MAGAZINE was ever intended to be filled with the stale remarks of former writers.

Perhaps there never before was so much original and useful matter published on such easy terms. We are persuaded that several of the articles will be entirely new to many of our readers; and if but one single useful hint is new, it will amply repay such a trifling expence as SIXPENCE a Month.

Columella's Letter on Deep and Shallow Ploughing, shall be inserted.—His Remarks on Pruning Trees intended for Timber are, in our opinion, superior to every thing we have seen: the plate to illustrate these remarks shall be engraved as soon as possible.

Our Hampshire Correspondent, on Chalking Land twice to ascertain its effects, is intitled to our best thanks.

The West-Country Farmer's Receipt for the Foot Rot in Sheep, we think infallible, if any thing can be so, and will appear in our next.

The Letter on Smoky Chimnies, with the Italian Method of White-washing Smoky Rooms—Remarks on the Mortar of the Antients—Stonehenge—and the Roman Causeway, will be inserted.

The Old Farmer's other piece in our next.

S. will see his favour in our next, with others of a similar kind.

A simple Method of preparing Extract of Saturn in the greatest perfection with common vinegar—Likewise, the Method of Setting Wheat practised in Norfolk, will appear as soon as possible.

Mr. Williamson on the Management and Disorders of Cattle, will see his favour duly noticed.

A GENERAL

The Farmer's Magazine,

A N D

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To which is added,

A GENERAL DICTIONARY of Husbandry, Planting, Gardening, and the Vegetable Part of the Materia Medica: Containing a great Variety of new and useful Matter, with many original Articles.

By AGRICOLA SYLVAN, Gentleman.

Printed for R. SNAGG, No. 129, Fleet-Street, London:
And R. CRUTT WELL, in Bath.

And sold by every Bookfeller, Stationer, and News-Carrier, in the Kingdom.

PRICE OF CORN AT MARK-LANE,
Monday, May 20.

Wheat, per quarter,	34s to 39s od
Barley, - - -	16s to 25s od
Rye, - - -	23s to 24s od
Brown Malt, - -	27s to 30s od
Pale ditto, - -	27s to 32s od
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Mutton, - -	3s. 6d.
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The ASSIZE of BREAD, as set by the Lord-Mayor of London, Tuesday, May 21st.

	<i>lb. oz. dr.</i>		<i>lb. oz. dr.</i>
The Penny Loaf, Wheat, o 11 2		Household, o 14 10	
Two-penny Loaf, Wheat, 1 6 4		Household, 1 13 4	
Three-penny Loaf, Wheat, 2 1 6		Household, 2 11 14	
<i>To weigh,</i>	<i>To be sold for,</i>		
<i>lb. oz. dr.</i>	<i>lb. oz. dr.</i>		
The Peck, 17 6 0	Wheat, 2 1	Household, 1 7	
Half Peck, 8 11 0	Wheat, 1 0	Household, 0 9	
Quartern, 4 5 8	Wheat, 0 6	Household, 0 4	

PRICES OF STOCKS.

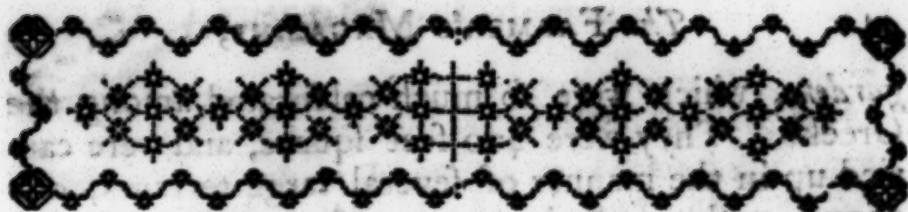
Bank Stock, 136 1/2
India Stock, 160 1/2
South Sea, -
3 per cent B. Red. 82 1/2
3 per cent Con. 83 1/2
3 ditto, 87 1/2
3 1/2 per cent 175 1/2
4 per cent Con. 86 1/2
Old S. S. Ann. 81
New ditto, Ann. -
3 per cent, 175 1/2
India Ann. 79 1/2
Long Ann. 25 1/2
India Bonds, 31s 3/4
New Navy Bills, 81 per ct. dis.
Quinniam, 12 per cent pr.
Scrip, 8 1/2
Lottery Tickets, 11l. 10s. 6d.

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Commissioners superseated.

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T H E

FARMER'S MAGAZINE.

+ + + + +

*A DISSERTATION on the Progress and present State of
AGRICULTURE; with a concise Account of the
best English Writers on the subject. [Continued.]*

THE ancient Chaldeans carried this valuable art to a considerable degree of perfection; they cultivated their lands with great assiduity, and received in return very plentiful crops. Their successors, to supply the want of rain, have taken immense pains and trouble to water their lands: The engines and wheels which they use for that purpose, are so numerous on the banks of the Euphrates, as sometimes to hurt the navigation of the river. Herodotus compared the country to Egypt, on account of its fertility; the common return of their tillage being, according to his account, upwards of two hundred fold.

When the sun melted the snow on the mountains of Armenia, the Euphrates overflowed its banks, whereby the city of Babylon and the country round suffered greatly; for the situation being low and flat, it became marshy and produced a great many willows: hence in scripture it is stiled "the valley of willows." To prevent these inundations, Nebuchadnezzar made two artificial canals to divert the overflowings into the river Tigris, before they reached Babylon. [We are of opinion, that a similar scheme may be executed with abundant success in several parts of this kingdom.]

Having mentioned some of the works attributed to Nebuchadnezzar, we cannot well omit his *hanging gardens,*

gardens, which were so much celebrated among the Greeks. They were 400 feet square, and were carried up in the manner of several large terraces, one above another, till the uppermost was as high as the walls of the city; which, according to Herodotus, (who was himself at Babylon) were three hundred and fifty feet high. The ascent was from terrace to terrace by stairs ten feet wide. The whole pile was sustained by vast arches built upon other arches, and strengthened by a wall, surrounding it on every side, of twenty-two feet thick. The floors were laid thus: on the top of the arches were first laid large stones sixteen feet long and four feet broad, and upon these a layer of bitumen and reeds; over this layer were two rows or courses of bricks, closely cemented with plaster; and upon these were laid thick sheets of lead that were covered with mould sufficiently deep to receive the largest trees.

These gardens were planted with an immense quantity of trees, shrubs, plants, and flowers, so as to make it appear like "a wilderness of sweets;" and in the upper terrace was an aqueduct, or engine, to water all the gardens.

Amyitis, the wife of Nebuchadnezzar, having been bred in Media, where she was much pleased with the mountains and woody parts of that country, desired to have something like it at Babylon; and her husband, to gratify her, erected this "monstrous work of vanity," as Dr. Prideaux calls it.

The Celtes exceed all other nations in point of antiquity, being descended from Gomer, the eldest son of Japhet, the eldest son of Noah. They are said at first to have been above minding agriculture; and when they came to it in time, they left the care and management of it to their wives and children. From their being the sons of Gomer, they were by some called Gomerians, Cimmerians, Cimbrians; by others called Gauls, by which name those on the Highlands of Scotland still call themselves. The English, by changing

changing G into W, which is very common, have given them the appellation of Welsh; and it is remarkable, that their language was almost the very same that is still preserved among the Welsh.

The Scythians, afterwards called Goths, (except one or two of their petty kingdoms) paid but little attention to agriculture; their greatest wealth consisted in their numerous flocks, living upon their milk, and cloathing themselves with their skins. Tho' they possessed a large extensive country, yet they rather chose to roam where they could find the best pasture, and contented themselves with the spontaneous fruits of the earth. They used uncovered waggons instead of houses, the refinements of civil life being but little known among them. They had the art of preparing pills, one of which would upon occasion yield sufficient nourishment for several days. Pliny says they had likewise a similar composition for their horses, which would serve them ten or twelve days; but the truth of this may justly be questioned.

When the Scythian Nomades first became known to the Greeks, they neither sowed nor reaped; they derived their subsistence from the fruits which the earth naturally produced, from the chase, and the milk and flesh of their flocks and herds. The Gauls were the first branch of the Celtæ who applied themselves to agriculture; and that earliest of all arts had scarce passed the Rhine when Cæsar displayed in Germany the Roman eagle.

The art of extracting an inebriating liquor from corn, was known among all the branches of the Celtæ, before the Greeks and Romans extended their information to the regions of the west. When the Romans extended their arms to this side of the Alps, the use of wine was introduced among the Celtic nations.

The Celtæ were better cloathed than some learned men have supposed, from the testimony of the anti-ents: Their peculiar custom of throwing away their loose garments in action, gave rise to the opinion that
some

some of them went always naked. Printed linens seem to be of Celtic invention. The Spanish ladies, in Strabo's time, wore linen robes stained with the figures of various flowers.

The Celtæ were not only neat in their dress, but they were also cleanly in their persons. The character of dirtiness, which we annex to the barbarians of ancient Europe, came from the East with those wild nations who overturned the empire of the West. The Sarmatæ, who were the ancestors of the greater part of the present inhabitants of Europe, were dirty to a proverb. The Celtic nations were particularly fond of cleanliness; they bathed regularly every day in the months of winter, as well as in the heat of summer; and they carried their love of neatness so far, that, according to Ammianus Marcellinus, in all the provinces of ancient Gaul, not one man or woman, even the poorest, was to be seen with patched or mended cloaths. The same writer gives a striking contrast to the Celtic neatness, in the nastiness of the Sarmatæ, whose dirty ragged posterity croud, at this day, the most opulent cities in Europe. The cleanliness of modern nations proceeds from luxury, and is not general; it was the result of nature among the Celtæ, and was universal. Beggary and rags (says Mr. Macpherson) are of the improvements of advanced society.

The Celtæ in general were such enthusiasts on the article of public freedom, that they affirmed it was the natural property of animals as well as of men. This love of liberty was one of the reasons they gave for their aversion to industry and the accumulation of property; "for he that wishes to be free, (said the Scythians,) ought to have nothing that he is afraid to lose."

The Phœnicians, so well known in the sacred writings by the name of Philistines, were also famous for their skill in agriculture; but being at length too much confined in their native country by their victorious neighbours the children of Israel; they spread themselves

themselves through many of the islands in the Mediterranean, where they carried their knowledge in husbandry. The Philistines being descended from the Egyptians, were not properly the natives of Canaan. The Canaanites who settled on the sea coast, were called Phœnicians by the Greeks. They greatly improved themselves in navigation, commerce, and the useful arts; they afterwards rose to great fame under the appellation of *Phœnicians*; but their ancient history is involved in much obscurity.

The Carthaginians followed the taste of their ancestors the Phœnicians, and applied themselves assiduously to the study and practice of agriculture and commerce. Byzacium, one of the provinces, was inhabited by the Liby-Phœnicians; its capital was Adrumetum, and was of so great fertility that the earth made a return of an hundred fold, though at present it is but a barren and uncultivated track, partly dry and sandy, and partly morasses.

With respect to trade and navigation, no nation was ever more famous, or enjoyed it in a larger extent than the Carthaginians. By the natural fertility of the soil, the skill of its artificers, and its happy situation, it became the center of traffick of the most remote nations. Being perfectly acquainted with all the ports in the Mediterranean, they pushed their discoveries westward, farther, in all probability, than any other nation. By an unremitting attention to agriculture, they were enabled to supply other countries in great abundance with corn, and fruits of all kinds; divers sorts of provisions and high sauces, wax, honey, oil, &c. all the produce of their own territories.

Mago, one of their most celebrated generals, having much enlarged their dominions, and extended their commerce, by which means their riches greatly increased, acquired as much glory to his country by his writings, as by his military achievements; he wrote no less than twenty-eight books on husbandry, which Columella tells us, were translated into Latin
by

by an express desire of the Roman senate, though Cato had before written copiously on that subject. Servius adds, that Virgil used these books as a model when he wrote his Georgicks.

Hannibal would never let his troops be idle, but filled Africa with olives of their own planting.

Carthage was so famous for its artificers, that any singular invention or exquisite piece of workmanship seems to have been called *Punic* by the Romans, their most inveterate enemies.

The Carthaginians had a laudable custom in sending colonies from time to time into different parts of their dominions; which not only contributed to the preservation of the public tranquillity, by drawing off the idle and indigent, but also became a great means of aggrandizing the state.

It is remarkable, that they used dogs flesh for food till the time of Darius Hystaspes, about 500 years before Christ, who being disgusted at it, required them to abstain from it, which they did for some time.

After Hannibal was conquered by Scipio, and their shipping in a manner destroyed, yet no sooner was the peace with the Romans concluded, but their trade began to flourish, which is a strong proof of the indefatigable attention which they paid to commerce. One of the articles of the peace was, to supply the Roman legions with corn; and soon after, they offered to supply them with a million of bushels of wheat, and half that quantity of barley, as a free gift. Though exhausted by a most ruinous war, stripped of their dominions, and deprived of their ships, and seemingly reduced to the extremest misery, they yet found means in ten or a dozen years time, again to become wealthy and powerful; such was the incredible industry and surprizing genius of this people for trade. When their city was taken by the Romans, the treasure carried off, exclusive of the plunder of the soldiers, exceeded all belief.

[To be continued in our next.]

ARTICLE

ARTICLE II.

On the Rickets or Goggles in Sheep.

AS the *rickets* or *goggles* in sheep has of late been rather alarming, I have sent you a few observations on the disorder, not doubting but that they will at least be entertaining, if not beneficial, to some of your readers: perhaps this may provoke some better pen to give you a better account.

The Reverend Mr. Comber has described the symptoms of this formidable distemper with great accuracy in a letter to Dr. Hunter, printed at the end of his "*Real improvements in agriculture.*"

When a sheep is first attacked he appears wilder than usual, as though he was somewhat light-headed; this is succeeded by a violent itching, but without eruptions; after which the poor animal daily grows weaker and weaker, walking about with a goggling gait, [hence the name *goggles*, or *rickets*] and towards the last generally lies down and eats but little. Sometimes a sheep will languish a long time with it, while others are carried off in a few weeks; for no remedy, not even a palliative one, has yet been discovered.

Nothing appears on dissection that can lead us to the source of this malady. The little blood that is left in the poor creature is ferous, or, to use the common phrase of the shepherds, is *turned into water*.

From the head of the sheep being affected so much, it was apprehended that the seat of the disorder lay there; and an intelligent gentleman farmer in the county of Huntingdon opened the heads of several sheep, thus dying, in order to make some discovery. In all of them he found a brownish-coloured maggot, about a quarter of an inch long, which led him to suppose this was the primary cause of the

rickets. But this maggot, or worm, is very common in the head of sound sheep in the spring, as is well known to the butchers, and cannot therefore be the cause of the disorder.

It generally, but not always, attacks the younger sheep, more particularly the *two tooth*s; and has been thought to have originated in or near the county of Lincoln. It is not infectious, but then it is hereditary, and, like other hereditary distempers, may be latent for one generation, and then revive with all its fury.

Hitherto nothing but conjecture has been offered with respect to the source of this seemingly unaccountable disorder. I shall therefore hope to be indulged in my turn with offering what may with many likewise pass for conjecture; but I am exceedingly happy in finding my sentiments corroborated by several very sensible farmers, and sheep-dealers.

The candid reader will be sensible how extremely difficult it must be for me to speak at all with precision on a subject which must from its very nature be involved in much obscurity; but I take the true *original* cause to have been—*not crossing the breed*; in other words, breeding successively from the same flock; which every one knows will at last produce poor, weak, rickety sheep. How well this principle will apply to every other species of animals, is too well known to be insisted on. Instances will occur to many sheep-dealers of some over-wise farmers who have proceeded on this principle, till experience at last convinced them of their folly.

Let us then for a moment suppose, that near half a century ago some over-curious person made choice of the very best rams and ewes that he could possibly procure; and that he was of opinion there was no necessity for crossing the breed, but that the flock might be kept up by breeding again successively from the finest and best of his sheep thus obtained. The degeneracy

degeneracy would certainly be conveyed from sire to son; but then, on account of such pains being taken, to prevent it, this radical defect would manifest itself by almost imperceptible degrees. It would, however, in time become constitutional, and be communicated inevitably, though not equally, on account of the different temperament, food, &c. of the sheep. And, in fact, the disorder has not yet appeared in several of the counties, though it has lately been suspected (from the report of its prevailing so much in the other parts of the kingdom) on account of a sheep now and then dying of a disorder with which the farmers seem to be not very well acquainted.

This conjecture is countenanced by the *universal debility* of the sheep that labour under the disorder in question; and likewise from an apparent defect in the spinal marrow: for if they are attentively and carefully examined by a proper pressure of the hand upon the back, even soon after they are seized, they will sink under it. But this is not all; some more light will be thrown upon the subject by considering the methods that have been employed with success to get rid of the distemper, and which is nothing more than *continually changing and crossing the breed*. Several farmers have by this means brought their flocks again into good order, after they have laboured under it for several years.

If any person will take equal pains with the writer of this article, he may, by enquiring of different farmers and their shepherds, be informed, that they believe the disorder lies a long time in the blood, and that their flocks were entirely free from it till they bought some sheep out of a neighbouring county. The farmers in this neighbouring county are equally displeased with those of some other county. Sometimes they pretend to trace it from some particular district or part of a county, because it has long

reigned there; and yet the farmers in this reprobated district are equally positive they have a right to re-criminate, having purchased from several different counties and yet found no material difference.

The best method therefore to prevent its progress, or to get rid of it where the flock is infected, seems to be that already mentioned; the farmer taking particular care in the choice of his *rams*, either from those places where the disorder has not yet penetrated, or where it has been spread, but is now happily removed.

What I have said is proposed with diffidence, tho' I am strongly inclined to believe the conjecture is well founded. If any of your correspondents will throw a little more light upon the subject, which is now become interesting to the farmer, and, in short, to the community in a very high degree; or will, by superior arguments and better reasonings, prove that I have totally mistaken the cause of the distemper, and trace it to some other, its true source, I shall be equally ready with your other purchasers to return them my thanks for the favour.

I am, &c.

Bath, April 30th,

V A R R O,

[The arguments which our ingenious, and, we will add, sensible correspondent, has adduced in support of what he modestly calls a *conjecture*, are, in our humble opinion, conclusive; we hesitate not a moment to acknowledge ourselves convinced. Much more may be added to elucidate and confirm what he has thus advanced; but we hope that our correspondents will preclude our remarks by favouring us with their own.

We have given the preceding letter on account of its great importances to the farmer, and indeed to the *community*, as *Varro* justly observes, instead of some other articles which must now be reserved for our next.]

ARTICLE

ARTICLE III.

*A new Method of destroying that pernicious Insect in
Wheat, called the Weevil.*

THE following letter from Paris having made its appearance, we take this opportunity of laying it before our readers.

“ When the extirpation of rabbits in this country was on the carpet, it was found that the smell of lobsters or craw-fish would entirely destroy them in their burrows; since when it has been discovered, that these fish have another property very useful to the farmer and corn-factor.

“ Monf. de Broffes, first president of the parliament of Dijon, finding that the weevils had got among some wheat at one of his farms, tried almost every method to get rid of them, but in vain, for his granaries still continued infested by this voracious insect: at length he was informed by a person of the means to destroy them, quite simple, and no ways expensive or dangerous, and which, it is said, had been practised in the Province of Poictou, with equal success.

“ Monf. de Broffes, as he was bid, got some live lobsters, which he threw on the wheat which was infested, and in four hours time the weevils came out from all parts of it, (for the fish were still alive) and dispersed themselves all over the wall in great numbers, that in many places it was quite black with them, and endeavoured to escape by the chinks in the wall, but at length they all perished.

“ The smell of this testaceous fish, particularly if they are left to stink, always proves fatal to these insects, yet will no ways affect the corn. It would be proper to try this remedy as soon as it was perceived

ceived that the weevils had begun to make their nests therein."

ARTICLE IV.

On Baron Van Haake's Salt.

Mr. SYLVAN,

I Should be glad of your opinion of Baron Van Haake's Salt, which has been so often advertised to manure land.

A YOUNG FARMER.

ANSWER.

Our correspondent has undoubtedly heard of the Bottle-conjurer, and the Cock-lane ghost.

ARTICLE V.

Cure for the Foot-rot in Sheep.

Mr. SYLVAN,

SIR,

I SEE by your proposals that you intend to publish some useful receipts; I have sent you one that may be depended on for the foot-rot in sheep, which is a troublesome distemper enough, though we do not find it quite so much so as they do in some counties.

Anoint the part with a little oil of vitriol, and then keep the sheep upon your dry land, otherwise it will return again. Whent he disorder is very inveterate, I let my sheep stand upon some flaked lime for a night, which never fails, if the disorder is curable.

A WEST-COUNTRY FARMER.

[We

[We beg leave to add a word or two to our correspondent's directions: the sheep should not be driven upon the lime immediately after the application of the vitriolic acid; *several hours* at least should intervene. Though our correspondent does not mention this disorder being contagious, yet we have indisputable authority to pronounce it so. If a sound flock was to be turned into a field immediately, or very soon after the lame one was taken out, it would in a short time be infected.]

ARTICLE VI.

Original Standard of Weights and Measures in this Kingdom.

MR. SYLVAN,

YOU mention Agriculture as the most antient and useful employment in the world, and, in short, it is the source of all our trade, manufactures, and commerce, and the consequent wealth; no wonder it is therefore by others stiled the most honourable one, independent of its having been the favourite study and amusement of so many eminent persons recorded in history.

Every farmer perhaps does not know that the grains of wheat and barley were the original standards to adjust the weights and measures in this kingdom.

Though it was ordained in Magna Charta that there should be but one weight and one measure, yet I do not find how or from whence the standard was to be made or adjusted till the 31st year of the reign of Edward the First; when it was ordained, "That three grains of *barley* dry and round do make an inch, twelve inches make a foot, three feet make a yard, five yards and a half make a perch, and forty perches [in length] and four in breadth, make an acre." Again,

"By

" By the consent of the whole realm of England, the king's measure was made, viz. That an English penny, which is called the sterling, round without clipping, shall weigh two and thirty grains of *wheat* dry in the midst of the ear, and twenty pence make an ounce, and twelve ounces make a pound, [Troy weight] and eight pounds make a gallon of wine, and eight gallons of wine make a bushel of London, which is the eighth part of a quarter."

I have given these quotations in modern spelling; but I am at a loss to know, why we now use only *twenty-four* grains for a pennyweight, and when this exchange, or rather abatement, took place. If any one of your readers will inform me, I shall be obliged to him.

I am, &c.

A Lover of Antient Customs.

ARTICLE VII.

To discharge Paint from Linen Cloth.

Mr. SYLVAN,

PLEASE to inform me how to discharge paint, or the yellow colour that it leaves, in cotton or linen cloth after washing.

A FARMER'S DAUGHTER.

ANSWER.

Rub the paint, or the yellow spot, well with spirits of turpentine, and it will immediately wash clean out without injuring the cloth. These spirits will likewise discharge paint, grease, &c. in woollen cloth.

ARTICLE

ARTICLE VIII.

On the Advantages and Disadvantages of deep and shallow Ploughing.

S I R,

AGREEABLE to my promise, I now send you a few thoughts on the advantages and disadvantages of deep and shallow ploughing, in soils that are deep enough to admit of being double trenched, if required. By shallow ploughing, I would be understood to mean from two to four inches deep.

In favour of shallow ploughing it may be said, That the roots of wheat, barley, &c. very seldom penetrate deeper than an inch and a half, or at most two inches; and that this depth affords a sufficient pasture for the roots, which certainly cannot draw any virtue from the earth below. The soil nearest the surface is universally allowed to be the richest, because most exposed to the influence of the atmosphere; and when it is ploughed but a few inches deep the whole may be more easily exposed to receive the benefit of the sun, rain, frost, &c. The usual quantity of manure will be greater in proportion than in deep ploughing, and the land of course proportionably more enriched. The land may likewise be more easily, and consequently more cheaply and oftener ploughed, which is an article of some consequence to a farmer: add to all this, that fine crops are often obtained by shallow ploughing; for in many places they cannot plough deep, and in others they plough shallow by choice.

Plausible as these arguments may seem, they have (at least with me) but little weight when brought to the only true test, experience. They would indeed be invincible if an old piece of pasture was to be broken up, and only one course of crops was to be taken, or two courses at the most. It must be acknowledged that in some soils there is such a natural

richness and fertility, that they are not easily exhausted, but may with proper care and management be kept in constant tillage. Such, for instance, are some parts of the vales of Evesham in Worcestershire, and of Taunton-dean in the county of Somerset; but this richness (except a few instances from marle, chalk, &c.) is in vain attempted to be communicated to soils naturally barren, some being so extremely light, and others equally too strong and heavy, and the means of changing them not always at hand.

Every one will agree with me in thinking, that the good or ill qualities or properties of soils can only be ascertained by repeated culture, though a judicious farmer may form a pretty good guess by examining them; and that there is likewise something extremely peculiar and unaccountable in the nature of soils. There are a great many pieces of land that will bear good wheat, oats, turnips, and clover, that will not produce good barley; there is a variety of deep soils in which saintfoin will not flourish; and some fields will scorch or canker carrots, which has been falsely attributed to dung; for I have known immense quantities of sound carrots raised on dunged lands, and I know it is the constant practice of several market-gardeners of my acquaintance to manure their carrot lands equally well in common as for other crops; yet nothing of these peculiarities is discoverable but by experiments;—but to return from this digression.

Though we are but little acquainted with the pabulum of plants, yet we all see clearly that when the land is repeated sowed with hard corn or grain, the return is greatly inferior to those on lands which are sown with intermediate green vegetable crops; and that the oftener any one sort of grain is sowed, the more slender and weak are the crops in return.

The absolute necessity of *fresh earth*, or that which is made so by comminution, and by being exposed to receive the influence of the atmosphere, is clearly evinced,

evinced, and abundantly confirmed, in every part of Europe where the new husbandry has been introduced. Land that has lain to rest many years will yield two successive good crops of wheat, while that which is constantly kept in tillage would hardly return a double quantity of the seed for a second crop. I have always observed that the crops produced on the deep soils are heavier than those which we obtain from shallow ones, though the grain from the latter is often of a good quality. As to the argument with respect to the upper part of the surface being much better than the lower part, it can be true only of pasture land, where, in fact, it has its use in planting trees or hedges.

In the common continued course of husbandry neither frequent ploughings nor manure will fully compensate for either the want of rest, or of fresh untilled earth. A good crop exhausts the land much more than the atmosphere can supply in the course of *one year*; and this is one convincing proof that it is morally impossible the New husbandry can ever succeed. Land will grow tired of manure, at least it will not produce successive equally good effects. It will likewise grow tired with clover, as every farmer who sows it has experienced.

The advantage arising from the cheapness of ploughing light furrows, and the trifling difference in the manure, will be amply compensated by a more plentiful harvest, where a vigorous untilled earth can be raised at pleasure by the plough. And this may be done if the staple of the land is sufficiently deep, which is impossible where either the soil is thin and shallow, or made so by ploughing.

Couch, and many other pernicious weeds, flourish amazingly in shallow ploughing, but inevitably rot when the land is double trenched.

If common opinion will have any weight, the farmers in general will subscribe to my sentiments.

They are often wishing for a *deeper* soil, that their crops may be *larger*; and, in short, so many instances occur of the superior fertility of virgin earth, when compared with that which is stale, for both corn and the green or vegetable crops, that it is unnecessary for me to enlarge; but I will beg leave to mention one, because it is common enough. When part of an arable field has been quarried, and the pit sloped so as to make it ploughable and the old earth spread over it, the corn and clover will be abundantly stronger upon this part than on the other part of the field which was repeatedly tilled during the time that the pit or quarry was in use, and will continue so for many years, as I have several times remarked.

If you think these few observations merit a place in your magazine, they are at your service.

I am, &c.

COLUMELLA.

[We hope to have the plate ready by our next, in order to explain *Columella's* observations on pruning trees intended for timber. We wish he would please to favour us with a few remarks on the drill husbandry.]

ARTICLE IX.

To fumigate Wall Fruit Trees in order to destroy Insects, Blights, &c.

Mr. SYLVAN,

THE following easy and simple method of destroying insects on wall fruit trees, cannot fail of being highly useful to many of your readers.

I am, &c.

A LOVER of FRUIT.

Take

Take an old tin watering pot, (or any similar vessel) and make a charcoal fire in it; add a tube or pipe made of either tin, leather, or stiff paper, to the spout, which may be of any sufficient length. Then strew some brimstone, tobacco dust, fine shreds of leather, &c. &c. upon the fire in the pot, and cover the top of it.

Having a pair of bellows ready, hold the wind flap over the tube or pipe to receive the smoke, which it will do very effectually when you use the bellows. By this means the suffocating vapour may be directed through the bellows to any part of the tree with the greatest ease and facility, and the tree soon cleared of all the vermin.

This method is much more effectual than the old one, where a chaffing-dish has been recommended for this purpose; because the latter method is more troublesome, and requires the wind to blow from a particular quarter right against the trees, which can seldom be obtained.

ARTICLE X.

On the Disadvantages of pruning Poplar Trees.

From the Philosophical Transactions.

SIR,

IN your general dictionary, under the word ABELE, the pruning of that kind of poplar is recommended until they are fifteen feet high; this conduct I cannot help thinking wrong, and submit my authorities for thinking so to your consideration. They are taken from Lowthorp's abridgment of the Philosophical Transactions, 4to. p. 708. and as that is a book rather scarce, and in very few hands, I think
you

you may print the following extract consistently with your declaration of not printing the *sole remarks* of foregoing writers.

"Four young poplar trees, all of equal bigness, growth, situation, and soil, as nearly as could be found, were ordered thus. The first had all its branches and top cut off; the second had almost all its branches pruned off, but was left with a small head at the top; the third had the branches cut off half-way, and those of the upper half left growing; the fourth was left growing without being at all pruned or lopped. In the following years the first shot out many twigs round about, but the body increased but little in height or bigness; the second shot out many twigs where it had been pruned, and the top branches and top also increased considerably, and the body also increased much more in height and bigness than the former; the third increased much more in all its parts than the second; but the fourth increased in limbs, height, and bigness, most of all; swelling in bigness and stretching in height, and spreading in its boughs much more than the third; and in about ten years was more than four times as big as the first.

"In the great frost 1684, of twenty-five poplars that had been pruned nineteen were killed by it, and the remaining six were very weak, and hardly able to recover, and increased very little in the following years. These poplars were about thirty feet high, and had only a small head left at the top unlopped, of about four or five feet, and were pruned the spring before the great frost. Divers also of those that were pruned two summers before the frost were killed by it, but none of those which had not been pruned at all were hurt by it; and both in Lancashire and Cheshire trees of sixty feet in height, that had been pruned and had only a small top left, were also killed by the said frost; whereas those trees of the same kind

kind and height which stood near to them, but had not been pruned, continued to flourish, and suffered no harm thereby.

“Where these prunings had been tried on trees twenty feet high, the difference of their increase was sensible the following summer; but in seven or eight years time the difference is prodigious, the unpruned trees growing several times bigger than the pruned both in body and branches.”

The above experiments convinced me of the disadvantage of pruning poplars; how they may operate upon your other readers I know not. Those who are of my way of thinking, will desist from the practice; and the others will only be as they were before from this page and half's preaching of their friend.

••

[We have convinced our correspondent of our obligations to him for his candour by inserting his letter, but he has mistaken our meaning. We are great enemies to the common method of pruning *timber trees*; but a poplar *truncheon* may with propriety have the *lateral* shoots disbranched till it is fifteen feet high, but then a good head with the leading shoots must always be left; but more of this in our next.

The experiments to which our correspondent has referred us are well conceived, but they do not apply. We are not informed how large or how high the four young poplar trees were; the height might possibly be fifteen feet: but we refer him to our remarks on Mr. Boutcher's treatise on forest trees in this month's review; and as they were written before his letter came to hand, he will see how nearly our sentiments with respect to pruning young trees agree with his own.]

ARTICLE XI.

On Potting Butter.

Mr. SYLVAN,

I AM obliged to you for the receipt to dye silks blue, &c. and in return have sent you a hint on potting butter. It

It sometimes unfortunately happens that a dairy-maid has a warm hand, and does not make a proper use of *cold* water, by which means the butter will retain too much of the butter-milk, and some of the water; this will occasion the butter to grow rancid in spite of all the other care and pains bestowed on it. I therefore recommend it to your fair readers (for I make no doubt but you have some on account of the *family receipts*) to pot their own butter: but first, with very cool hands and in a cool place to work the butter well over again till all the butter-milk and water are, if possible, squeezed out; and then it may be potted with safety, and will require a much less quantity of salt than is generally employed.

LUCINDA.

P. S. If you approve of this, I will send you a method to preserve eggs for your next month's magazine, but not borrowed from any book.

[The preceding hint is very just, as well as useful; for butter (or lard) will when warmed unite with water, and the former will retain part of the butter-milk, which being thus imbibed will putrefy and communicate their ill qualities to the butter; but by observing *Lucinda's* instructions this disagreeable taint may be prevented. It should likewise be observed the milk or water will separate from the butter pretty freely when it is quite cold.

We shall be glad to receive *Lucinda's* promised favour, and hope she will not fail to let us have it by the 15th day of the month, or, if she thinks her letter will be a short one, by the 20th at farthest.]

ARTICLE XII.

On the Utility of setting or planting Wheat.

THE planting of wheat seems to have been frequently suggested by setting a certain number of grains in a garden: and many have expressed their admiration

admiration at the number of ears that have arisen from a single seed. But these seem to have been people of mere curiosity, that had no thought or opportunity of extending it to a lucrative purpose: and I cannot recollect any ever attempting it upon a larger scale, till a little farmer, near Norwich, about seven or eight years since, began it upon less than an acre.

He was succeeded, for two or three years, by a few imitators, who were generally the butt of their neighbours' merriment, for adopting so singular a practice. But their saving and success (for they had better and larger crops than their neighbours) engaged several more to follow; while some speculative persons, observing its great advantage, recommended it particularly; or published its utility in a public paper. These recommendations and advertisements had their effect: the curiosity and enquiry of divers farmers were excited, who found it a sufficient incentive for their own experiment; and many of these in various parts of Norfolk (particularly in the vicinity of Norwich) began setting; among whom was the largest occupier of land in that part of the county.

Its first opposers are silenced; a new accession of supporters to this provident and public scheme is arisen. As the produce has best vindicated the method, and given an undoubted propriety to the practice, it is now an appeal to common-sense; for the set or planted crops were not less thick on the ground, the ears were indisputably larger, without any dwarfish or under corn, the grain of a larger size, and specifically weightier, per bushel, than the sown; and there seems to be no doubt but the present crops will be commensurate with the appearance, which was experimentally manifest the preceding years. The quantity and quality thus increased and improved, (the first saving certain) there can, at pre-

sent, no doubt be suggested of its future enlargement. Therefore, to indulge the curious, and for the benefit of such as may be disposed to the practice, I shall relate the manner of its performance.

The lands, on which this mode is peculiarly prosperous, are either after a clover stubble, or on which trefoil and grass seeds were sown the spring preceding the last, and on which the cattle have been, from time to time, pastured during the summer. These grounds, after the usual dunging, are only once thrown over by the plough, in an extended drag or trow about ten inches over, along which a man, who is called a dibbler, with two setting-irons, somewhat thicker than ram-rods, though much thicker towards the end and pointed at the extremity, with cases of wood for their handles, which resemble those of common spades or shovels, steps backward along the turf, and at every step makes two holes, about four inches asunder every way, and about one inch deep, into each of which, the droppers (women, boys, or girls) drop one, two, or three grains; but two are esteemed preferable to one, or more. After which, a gate with thorns drawn through its ledges, or rails, is drawn by one horse, and fills up the holes. By this mode, three pecks and a half, or less than one bushel of seed, if the droppers are heedful, is sufficient; not a grain of which seems lost, but, buried as related, it seems equally removed from the prey of vermin or the power of frost, while the regularity of its rising gives facility to the removing any weeds which spring up. At its first appearance it necessarily seems thin on the ground, but when the spring has made some progress, it branches out, and looks almost equal to the sown, and thence, from time to time, acquires new strength, till it becomes, as already mentioned, more prosperous than it. In a few words, this improvement is the most promising, and repleto with the greatest utility, of any lately made

made in the agricultural art. In a parochial view, it will lessen the rates, by employing the aged and children: it saves to the farmer and the public, in every acre, from five to six or seven pecks of wheat; which, if nationally adopted, without considering the superior produce, would afford bread for near half a million of people.

The extraordinary expence for setting was at first about 10s. or 10s. 6d. per acre, but is since reduced to about half that sum. It is usual to lime the seed, as it gives a roughness to it, and prevents too many grains slipping from the fingers.

Norfolk.

[From the preceding account it seems as if the clover stubble is *first* dunged and *afterwards* ploughed, which practice (a few instances excepted that will hereafter be taken notice of) we most heartily condemn. We do not see how the wheat which is planted only one inch deep can be nourished by the manure which is buried several inches below it; but if we have mistaken the gentleman's meaning, we shall, on being convinced of our mistake, be very free to acknowledge it.]

ARTICLE XIII.

Short and easy Rules for different Calculations.

HAVING the price of one, to find that of 100.—
For every farthing in the price reckon twice as many shillings, and once as many pence. *Example,* the price being 2d. per pound, ounce, ell, yard, &c. there being 8 farthings in the price, twice that number of shillings is 16, and once as many pence is 8.
Answer, 16s. 8d.

Having the price per gallon to find that of an hoghead;—for every penny in the price per gallon, reckon 5s. 3d. per hoghead.

A penny per gallon is a guinea per tun.

A farthing per pound is 2s. 4d. the Cwt. of 112lb.

A farthing a week amounts to 1s. 1d. per ann.

A penny a day amounts to one pound, one angel, (10s.) one groat, and one penny a year, viz. 1*l.* 10s. 5*d.* which will be upwards of thirty pounds in twenty years. Two-pence a day is two pounds, two angels, two groats, and two-pence a year, &c.

Three farthings per pole, perch, rod, or lug, is after the rate of 10s. per acre.

ARTICLE XIV.

To prevent Bruises on Women's Breasts degenerating to Cancers.

A Cancer is universally allowed to be the most dreadful evil that can befall the human body, and arises principally on the lax and glandulous parts, as the breasts, and emunctories. The reason of its appearing in the breasts more than other parts is owing to their being full of glands, with lymphatics and blood vessels among them; for the smallest confusion, compression, or puncture, extravasates those liquors which grow by degrees acrimonious from the cancer,

Dr. Bisset, in his "Medical essays and observations," calls the cancer the most virulent species of the land-scurvy; and says, that "the seat and primary cause of the cancerous humour is unquestionably ascertained; since, as the cancer always affects one or more glands, and is preceded by a schirrus, the first obvious internal cause of it is a stagnation of lymph, or white juices in these glands; which by being long retained in the body in a state of stagnation, acquire the cancerous acrimony and virulency; and at length infect the whole mass of blood with a cancerous humour, which is totally insuperable because it will not admit of concoction or separation from the sound juices; and therefore can never be totally expelled by the emunctories."

Having

Having thus slightly mentioned the most obvious causes of this dreadful disorder, we cannot do our fair readers a more essential piece of service than by communicating the following easy method of treating the bruise in its recent state, to prevent the dismal and fatal consequences which often flow from such a seemingly trifling accident, communicated by the late benevolent Dr. Mead.

As soon as possible after the part is bruised, apply to it pretty freely the *Thebaic Tincture*, [laudanum] which the Doctor says generally prevents the bruise from turning to a cancer.

ARTICLE XV.

On DISTILLING Simple Waters.

WATER distilled over from certain plants, &c. by a boiling heat, becomes more or less impregnated with their flavour and virtue. The distilled liquor owes the qualities it acquires, to a portion of the oil of the subject elevated and mingled with it.

The virtues capable of arising in this process, are those only which consist in warmth, pungency, and smell or flavour; and hence such substances as are eminently endued with these, are the proper subjects for distilled waters to be drawn from; such are, spices, warm seeds and berries, fragrant herbs, flowers, and fruits, and some of the acrid plants.—Cathartic, emetic, astringent, bitter, sweet, cooling, emollient, nutritious qualities, are in vain expected to come over the helm.

Some vegetable matters, even of the more odoriferous kind, undergo such an alteration from the aqueous medium, and the degree of heat necessary in this operation; that though the subject loses all its fragrance,

fragrance, yet the distilled liquor has little or nothing of it, but proves both in smell and taste disagreeable.

In order to collect the volatile virtues of these kinds of vegetables, the chemists have contrived another process; which Boerhaave seems particularly fond of. The subject is included in proper vessels, without any additional matter, and exposed to a heat no greater than the summer's sun: the vapour which arises in this degree of warmth, and condenses in the receiver, is supposed to contain the more fragrant, subtle, and aromatic parts of the plant; and to be, in reality, the effluvia that would exhale from it in the open air caught and collected by the means of art.

This process however is upon trial found defective; the liquors obtained by it proving greatly different in smell from the natural effluvia of the subject. And indeed the principle it is founded upon appears to be erroneous: it is not the sun's heat alone that raises and impregnates the air with the odorous effluvia of vegetables; this fluid itself, as a menstruum, dissolves and imbibes them, as we have observed in our last.

The natural effluvia of vegetables, therefore, which may be looked upon as an infusion of them made in the air, may have very different effects from those parts of them which are capable of being elevated in distillation. Thus, though the effluvia of poppies should procure sleep or bring on lethargic disorders, and those of the walnut-tree bind the belly, (as they are reported to do) it is not to be expected that their distilled waters should do the like. Lemery relates, from his own knowledge, that several persons were purged by staying long in a room where damask roses were drying; an effect daily experienced from aqueous infusions of these flowers, but never from their distilled water.

After the odorous water, alone intended for use, has come over, an acidulous liquor arises, which has sometimes

sometimes extracted so much from the copper head of the still, as to prove emetic. To this are owing the anthelmintic virtues attributed to certain distilled waters. We shall give directions to obtain a few of the best simple waters.

Angelica Water.

Take of angelica leaves, fresh, any quantity; water, three bottles as much, and distil as long as the liquor runs well flavoured of the plant.

This water smells and tastes considerably of the angelica, but does not prove so agreeable as might be expected.

Simple Orange-peel Water.

Take of yellow peel of Seville oranges, dried, four ounces; water, as much as is sufficient to prevent burning;—distil off one gallon.

This water proves very weak of the orange-peel. It is designed for a diluter in fevers and other disorders, where the stomach and palate are subject to receive quick disgust; in which cases (as the London committee observe) *cardial* waters, especially if their use is to be long continued, ought to be but lightly impregnated with any flavour however agreeable.

Cinnamon Water.

Take of cinnamon one pound; water, a gallon and a half; steep them together for two days, and then distil off the water till it ceases to run milky.

Great care must be taken in the choice of the cinnamon, because *cassia* is frequently sold in its stead.

Fennel Water.

Take of sweet fennel seeds one pound; water, sufficient to prevent its burning; and distil off one gallon.—Some direct fennel leaves instead of the seeds; but no part of the herb is equal in flavour to the seeds.

Hyssop,

Myssop, Balm, Spear-mint, Pepper-mint, &c. Waters.

Take of the fresh leaves any quantity; water, three times as much; and distil while the taste and flavour continue.

Damask-Rose Water.

Take three parts of water to one of the fresh roses. It is customary to mix a little common water with this distilled water, and then sell it for distilled water of red roses; and indeed the substitution is very pardonable, for the water drawn from the red rose has no quality which that of the damask does not possess in a far superior degree; but neither the purgative virtue of the damask rose, nor the astringency of the red, arise in distillation.

Elder-flower Water.

It is made after the same manner as the angelica water, and smells considerably of the flowers, but is now rarely made use of.

[To be resumed in our next.]

ARTICLE XVI.

Answer to the first Query in our last.

IF 3*l*. 17*s*. 10½*d*. is equal to, or weighs one ounce,

then a guinea [21*s*.] should weigh ^{grs.} 129,4382 =

5—9,4382. There is a small fraction remaining, but it is not worth while to carry the work any farther.

Chippenham.

W. S. jun.

[Our young correspondent's calculation is right, supposing the guinea to be coined according to its true and real value; but we have been informed that they are now coined agreeable to the standard which was fixed some years ago, when gold was 3*l*. 18*s*. 1½*d*. per ounce, and that they weigh only 5*d*wt. 9½*grs*. If any of our readers who are conversant in this business will be so kind as to favour us with the true state, we shall thankfully insert it.]

ARTICLE

ARTICLE XVII.

On the danger of giving Carrots to Horses sliced transversely, and of feeding sick Bullocks.

Mr. AGRICOLA SYLVAN,

SIR,

PERHAPS the following hints may be useful to some other farmer, and as I have experienced the facts I can recommend them.

I have long approved of giving carrots to horses, and have found them to be a very wholesome nourishing food for them. At first I used to cut them into short pieces, but was very near losing one or two of my horses by their eating them so greedily; for the pieces several times stuck in their throats, which gave us a good deal of trouble to force them down: Since which I never slice or cut the carrots at all, but give them whole to my horses. They will bite off such pieces as they can manage, and I have not been again troubled with the inconveniency above mentioned.

When a cow is sick or in pain, she will sometimes refuse her food, and unless she is fed or crammed, she will waste greatly in her flesh, and I believe would be quite famished. But then if the food is only put into her mouth, she will not swallow it, but let it fall out again. My rule is to thrust the food a little way into the gullet or throat, and she will then swallow it. At first some of my servants were afraid of being bitten, but they were soon reconciled to it, and found the business might be easily and safely done. Grains, mashes, and particularly young grass, are the best things for the cows in these cases.

W---shire.

I am, &c.

AN OLD FARMER.

(We think that if the carrots had been sliced longitudinally or lengthways, the above inconveniency might have been prevented.)

M

A candid

ARTICLE XVIII.

The natural History of the Tea-Plant.

THE Tea Plant is a shrub of very slow growth and diminutive size, and is a native of China and Japan. It has a black woody irregularly branched root. The rising stem soon spreads into many irregular branches, and twigs, which near the ground often seem to be more in number than they really are on account of several shrubs sometimes growing together, which is easily overlooked by the less attentive observers. The bark is bitter and nauseous. The wood is hard, greenish, and of a very offensive smell while green. When the leaves are full grown they resemble those of the garden cherry, but afford very little smell. The flowers appear in autumn and continue till late in the winter, when they are succeeded by the fruit, composed of capsules containing the seed.

The shrub must be at least of three years growth before the leaves (which it then bears in plenty) are fit to be plucked. In seven years time, or thereabout, it raises to a man's height; but as it then grows slowly, and bears but few leaves, the natives generally cut it down quite to the stem, from which so many young branches proceed the next year with such abundance of leaves, as sufficiently to compensate for the loss of the former shrub.

The leaves must not be torn off by handfulls, but plucked carefully one by one. Some pluck their shrubs thrice in one year, beginning their first gathering about the end of February. The leaves are then very young and tender, and are reckoned much the best; and on account of their scarcity and price are sold only to princes and rich people; hence the name *imperial tea*. The second gathering (the first of those who pluck twice only) is about the latter end of March or beginning of April. The third, which is a more plentiful one, is made in the end of May, by which time the leaves have attained their full growth and size. The leaves are afterwards arranged in different classes, according to their size and goodness; for green tea.

The last, or autumnal gathering, or rather stripping, which is by much the most plentiful of any, produces the *bohea*. It has been supposed that the difference in the tea is owing solely to the different soils in which the tea shrub is planted, than which (to us at least) nothing can be more improbable. The leaves will be green, whatever be the nature of the soil in which the plant grows; and it cannot be presumed that the natives will intentionally deprave the colour in drying the leaves

leaves, when a considerable abatement of their value is the consequence.

The plain simple fact is this. The leaves are not *all* plucked off at the several gatherings, for this, as every one knows, would prove fatal to the plant; but as they begin to fade late in autumn, the tree is just before that time totally stripped of its leaves and seeds; this work is so hastily performed, that small pieces of the branches are not unfrequently broken off; which are never to be met with in *green tea*. It is for this reason that *bohea* is not so liable to receive injury in keeping as green; the latter (as already observed) being made with the young, succulent, juicy leaves: and tho' an insatiable curiosity for something novel, almost continually multiplies new kinds or distinctions of teas upon us; yet all these distinctions and sub-distinctions are included in the *green* and *bohea*.

The preparation of the leaves consists in drying them when fresh gathered over the fire in an iron pan, and rolling them when hot with the palm of the hand on a mat (the finest being rolled leaf by leaf) till they are curled. The tea being sufficiently dried and curled, is, when cold, put up and carefully secured from the air, and then sent abroad into different countries.

With respect to the fine flavour, which is supposed to be artificial, we may only refer to new hay, which is sometimes very fragrant, though the grass from which it was made had little or no smell while growing. Some have suspected that either copper, or green copperas, was employed in colouring the fine teas; but this opinion is without the least possible foundation. A quick and careful drying will preserve the colour and flavour of vegetables, while a slow one would greatly injure both, of which we shall have occasion to take some farther notice in our next on the common, but not exhausted subject, of making hay.

The Chinese use only a simple infusion of it in hot water; but the Japanese grind the dried leaves to a fine delicate powder, and then mix it with hot water till it is a thin pulp, and afterwards sip it: this is called *thick tea* to distinguish it from the common infusion, and is drank every day by all the rich people and great men in Japan.

The genuine Tea-plant has lately been introduced into this kingdom, and seems to thrive pretty well in the green-house during the winter, and to bear the open air in summer; and will very probably become more hardy as it is more naturalized to the climate.

Tea was first introduced into Europe very early in the last century by the Dutch East-India Company; and the Lords

Arlington and Ossory brought some over from Holland about the year 1666, when it was sold for sixty shillings a pound. The present consumption is almost incredible; three millions of pounds being allowed for home consumption, exclusive of what is smuggled into the kingdom.

With respect to its medical virtues, which are by some so highly extolled, while others attribute to it the most pernicious effects, we shall beg leave to appeal to the common experience of most people in the kingdom, to whom it now furnishes an entertainment every morning and evening, when we say, that the common infusion is agreeable to both the palate and stomach; at the same time we appeal to the faculty when we give our opinion, that the ill effects of tea-drinking are, when considerable, principally owing to the warm water and the fragrant of the tea. Some constitutions have a natural antipathy to aromatics, and to these the finer teas are most pernicious; but this principle may be corrected by boiling the tea a few minutes, which will dissipate the more fragrant parts that so much affect the nerves of some people: Bohea tea possesses this in a much less degree, and may therefore be used with more safety in such constitutions.

Green tea is astringent, and taken on an empty stomach will operate as a mild emetic. It greatly exhilarates some people, and hence its use in preventing sleep. A decoction or infusion is likewise recommended to restore the colour of black silk gloves when it is faded, by washing them in it; but a weak decoction of logwood is much superiour. Bohea tea is imitable by the leaves of certain common plants artificially tintured and impregnated with the rose flavour, as is well known to the smugglers; but no plant or flavour is yet discovered that bears even a remote resemblance to the green.

ARTICLE XIX.

New Queries for the Farmers' Sons.

I. SUPPOSE a field was to be set or planted with wheat, and that the grains were to be four inches asunder every way: *Query*, how many gallons would plant an acre, agreeable to the rules laid down in the sixth article of this Magazine?

II. Suppose the grains were six inches asunder, (the distance which some approve of) how many gallons would in that case set an acre?

POETRY.

AVERAGE PRICES of CORN,

From May 6, to May 11, 1776.

By the Standard Winchester Bushel of Eight Gallons.

Published by Authority of Parliament.

	Wheat	Rye	Barley	Oats	Beans
	s. d.	s. d.	s. d.	s. d.	s. d.
London	4 7	3 0	2 4	2 0	3 0

COUNTIES INLAND.

Middlesex	4 11	2 10	2 4	3 2
Surry	4 0	2 9	2 3	3 10
Hertford	4 8	2 10	2 2	3 6
Bedford	4 6	2 7	2 0	3 2
Cambridge	4 2	2 11	2 0	2 7
Huntingdon	4 4	2 6	1 10	2 10
Northampt.	4 4	2 6	2 1	2 9
Rutland	4 5	2 3	1 10	
Leicester	4 7	2 6	2 1	2 3
Nottingham	4 4	2 6	2 1	2 6
Derby	4 5	2 1	1 7	3 4
Stafford	4 9	2 4	2 1	2 3
Salop	4 7	2 5	2 1	2 0
Hereford	4 0	2 8	1 10	
Worcester	4 2	2 9	2 5	2 3
Warwick	4 8	2 5	1 6	3 5
Gloucester	4 6	2 5	1 10	3 4
Wilts	4 6	2 5	2 0	3 10
Berks	4 3	2 3	1 11	3 1
Oxford	4 7	2 5	2 0	3 0
Bucks	4 7	2 6	2 0	2 11

COUNTIES upon the COAST,

Essex	4 5	2 10	2 10	2 3	2
Suffolk	4 4	2 10	2 6	2 0	2
Norfolk	4 2	2 11	2 1	1 11	
Lincoln	4 2	2 6	2 4	1 10	3
York	4 6	2 12	2 9	1 8	3
Durham	4 4			1 9	3
Northumb.	4 2	2 3	2 4	1 7	2
Cumberland	4 11	3 8	2 8	1 8	3
Westmorel.	5 5			1 7	3
Lancashire	5 3		3 0	1 9	3
Cheshire	5 3		2 9	1 10	
Monmouth	4 11		2 5	1 9	
Somerset	4 8		2 7	1 10	2
Devon	5 2		2 8	1 6	
Cornwall	4 10		2 8	1 8	
Dorset	4 10		2 5	2 3	6
Hampshire	4 4		2 9	2 3	1
Suffex	4 4		2 10	2 3	1
Kent	4 10		2 0	2 3	0

From April 20, to May 4, 1776.

W A L E S.

No. Wales	5 2	3 11	2 7	1 6	3 8
So. Wales	5 0	3 11	2 11	1 5	2 11

Part of SCOTLAND.

Wheat	Rye	Barley	Oats	Beans	Big
4 0	—	2 2	1 7	2 2	1 9

P O E T R Y.

Though the three following pretty descriptive Poems have already appeared, yet as they are so well adapted to our plan, and will bear reading a second time, which is saying not a little in favour of modern poetry, our readers will think with us that they well deserve a place among our poetical productions.

STANZAS on the MORNING.

IN the barn the tenant cock,
Close to Partlet perch'd on high,
Briskly crows, (the shepherd's clock)
And proclaims the morning nigh.
Swiftly from the mountain's brow,
Shadows, nurs'd by night, retire;
And the peeping sun-beam now
Paints with gold the village spire.
Now the pine-tree's waving top
Gently greets the morning gale;
And the new-wak'd kidlings crop
Daisies round the dewy dale.

Philomel forsakes the thorn,
Plaintive where she prates at night;
And the lark, to meet the morn,
Soars beyond the shepherd's sight.
From the clay-built cottage-ridge,
See the chatt'ring swallow spring!
Darting thro' the one-arch'd bridge,
Quick she dips her dappled wing.
Lo, the busy bees, employ'd!
Restless till their task be done!
Now from sweet to sweet uncloy'd,
Sipping dew, before the sun.

Trickling

Trickling thro' the crevic'd rock,
See the silver stream distill!
Sweet refreshment for the flock,
When 'tis sun-drove from the hill!

Ploughmen, for the promis'd corn,
Rip'ning o'er the banks of Tweed,
Anxious hear the huntsman's horn,
Softened by the shepherd's reed.

Sweet, oh sweet, the warbling throng,
On the white emblossom'd spray!
All is music, mirth, and song,
At the jocund dawn of day.

N O O N.

FERVID now the sun-beam glows,
Drinking deep the morning gem:
Not a dew-drop's left the rose,
To refresh her parent stem.

By the brook the shepherd dines,
From the fierce meridian heat
Shelter'd, by the branching pines,
Pendant o'er his grassy seat.

See, the flock forsakes the glade,
Where uncheck'd the sun-beams fall,
Sure to find a pleasing shade
By the ivy'd abbey wall.

Echo in her airy round
O'er the river, rock, and hill,
Cannot catch a single sound,
Save the clack of yonder mill.

Cattle court the zephyrs bland,
Where the streamlet wanders cool;
Or with languid silence stand
Midway, in the marshy pool.

But from mountain, delf, or stream,
Not a flutt'ring zephyr springs;
Fearful, lest the piercing beam
Scorch its soft, insusceptible wings.

Not a leaf has leave to stir,
Nature's lull'd, serene, and still!
Quiet e'en the shepherd's cur,
Sleeping on the heath-clad hill!

Languid is the landscape round,
Till the fresh descending show'r
Kindly cools the thirsty ground,
And revives each fainting flow'r.

Now the hill, the hedge, is green,
Now the warbler's throat's in tune!
Blythsome is the vernal scene,
Brighten'd by the beams of Noen.

E V E N I N G.

AS the plodding ploughman goes
Homeward (to the hamlet bound)
Giant like, his shadow grows,
Lengthen'd o'er the level ground,

The steer along the meadow strays
Free—the furrow'd staff is done;
And the village windows blaze,
Burnish'd by the setting sun.

Mark him from behind the hill,
Strike the purple-painted sky:
Can the pencil's mimic skill
Copy the refulgent dye!

Where the rising forest spreads
Round the time-decaying dome;
To their high-built airy beds,
See the rooks returning home!

As the lark, with varied tune,
Carols to the evening, loud,
Mark the mild-resplendent moon
Breaking through a parted cloud!

Now the hermit owl peeps
From the barn, or twisted brake,
And the curling vapour creeps
O'er the lily-border'd lake.

As the trout, in speckled pride,
Playful, from its bosom springs,
To the banks a-ruffled tide
Verges in successive rings.

Tripping through the silent grass
O'er the path-divided dale,
See, the rose-complexion'd lass
With the well-pol'd milking pail!

Linnets with unnumber'd notes,
And the cuckoo bird with two,
Tuning sweet their mellow throats,
Bid the setting sun adieu.

On burning several Poems of Ovid,
Martial, Oldham, Dryden, &c.

I Judge the Muse of lewd desire;
Her sons to darkness, and her
works to fire.

In vain the flatterers of their wit
Now with a melting strain, now with
an heavenly flight

Would tempt my virtue to approve
Those gaudy tinders of a lawless love,
So harlots dress: they can appear
Sweet, modest, cool, divinely fair,
To charm a *Caro's* eye: but all within
Stench, impudence and fire, and ugly
raging sin.

Die, *Flora*, die in endless shame,
Thou prostitute of blackest fame,
Strip'd of thy false array:
Ovid, and all ye wilder pens
Of modern lust, who gild our scenes,
Poison

Poison the British stage, and paint damnation gay,
Attend your mistress to the dead;
When *Flora* dies her limbs should wait
upon her shade.

III.

* *Strephon*, of noble blood and mind,
(For ever shine his name!)
As death approach'd his soul refin'd,
And gave his looser sonnets to the flame.
"Burn, burn," he cry'd, with sacred rage,
"Hell is the due of every page,
"Hell be the fate. (But O indulgent Heaven! [forgiv'n!])
"So vile the muse, and yet the man
"Burn on, my songs: for not the silver *Thames*,
"Nor *Tyber* with his yellow streams
"In endless currents rolling to the main,
"Can e'er dilute the poison, or wash out the stain."
So *Mysis*, by divine command,
Forbid the leprous house to stand,
When deep the fatal spot was grown,
Break down the timber, and dig up the stone.

* *Earl of Rochester*.

ODE to VIRTUE.

VIRTUE! thou celestial maid,
Come, and let me share thy aid:
Fire, O fire my ardent soul;
Ev'ry low desire controul.

Virtue! source of calmest ease,
Nothing, without thee, can please:
Choicest gift of gracious heav'n,
Choicest gift to mortals giv'n.

Ah! without thee, what avails
Summer's gentle, balmy gales;
What avails the daisied mead!
What avails the fragrant shade!

Bootless is the thrush's song,
Bootless all the coral throng;
Heav'nly Goddess, without thee,
Joyless is their melody!

But with thee, the rugged way
Of adversity, is gay;
Thou canst sooth the swelling breast,
By calamity, oppress.

When care retreats with wrinkled brow,
And health and wealth and pleasure
Thou sole canst teach us how to prize
These fleeting sublunary joys.

Fair Virtue! calmly smiling pow'r!
Wait me to thy sylvan bower;
There, my raptur'd thought inspire,
While, to thee, I strike the lyre!

Heav'nly Goddess, well I know,
That no sullen form of woe,
That no sable-pinion'd care,
In thy mansion may appear.

Well I ween, that peace of mind,
Thy daughter born, to bless mankind,
Ever more attends on thee,
With the blithe *Euphrosyne*.

Friendship, with the myrtle crown'd,
In thy bow'r is ever found:
Craft her air assumes in vain,
In flow'ry vice's wanton train.

But ah! what form so heav'nly fair,
Approaches with that careless air?
Lo! virtue smiles: I see, I see,
Divine Amonia, it is thee!

Wouldst thou now, Virtue, grant
thine aid,
And whisper to the lovely maid,
That eagerly her steps I tend,
She'll smile, and all my cares will end!

To the Discontented and Unquiet.

VARIA, there's nothing here that's
free

From wearisome anxiety:
And the whole round of mortal joys
With short possession tires and cloy:
'Tis a dull circle that we tread
Just from the window to the bed,
We rise to see and to be seen,
Gaze on the world a-while, and then
We yawn and stretch to sleep again. }
But FANCY, that uneasy guest,
Still holds a lodging in our breast;
She finds or frames vexations still,
Herself the greatest plague we feel.
We take strange pleasure in our pain,
And make a mountain of a grain,
Assume the load, and pant, and sweat
Beneath th' imaginary weight.
With our dear selves we live at strife,
While the most constant scenes of life
From peevish humour are not free;
Still we affect variety:
Rather than pass an easy day,
We fret and chide the hours away;
Grow weary of this circling sun,
And vex that he should ever run
The same old track; and still, and still
Rise red behind yon eastern hill,
And chide the moon that darts her light
Thro' the same casement every night.

We

We shift our chambers and our homes
To dwell where trouble never comes:
Sylvia has left the city crowd,
Against the court exclaims aloud,
Flies to the woods; a hermit saint!
She loaths her patches, pins, and paint,
Dear diamonds from her neck are torn;
But *Humours*, that eternal thorn,
Sticks in her heart: she's hurry'd still
Twixt her wild passions and her will:
Haunted and hagg'd where'er she
roves

By purling streams, and silent groves,
Or with her furies, or her loves.

Then our own native land we hate,
Too cold, too windy, or too wet;
Change the thick climate, and repair
To *France* or *Italy* for air;
In vain we change, in vain we fly;
Go, *Sylvia*, mount the whirling sky,
Or ride upon the feather'd wind,
In vain; if this diseased mind
Clings fast and still its close behind.
Faithful disease, that never fails
Attendance at her Lady's side,
Over the desert or the tide,
On rolling wheels or flying tails.

Happy the soul that virtue shows
To fix the place of her repose,
Needless to move; for she can dwell
In her old grandfather's hall as well.
VIRTUE that never loves to roam,
But sweetly hides herself at home,
And easy on a native throne
Of humble turf sits gently down.

Yet should tumultuous storms arise,
And mingle earth and seas and skies,
Should the waves swell & make her roll
Across the Line or near the Pole,
Still she's at peace; for, well she
knows

To launch the stream that duty
And makes her home where-e'er she
goes.

Bear her, ye seas, upon your breast,
Or waft her, winds, from East to West
On the soft air; she cannot find
A couch so easy as her mind,
Nor breathe a climate half so kind.

COLIN. A PASTORAL.

On the Death, and in Imitation of Mr.
JOHN CUNNINGHAM.

By Mr. HAWKINS.

GIVE ear, O! ye swains, to my lay
Since Colin, alas! is no more,

Let's languish and pine all the day,
In sorrow his loss to deplore;
For he was the pride of the plain,
The garden, the grove, and the field,
But "lost is the Pastoral strain,
Since he no more beauties can yield.

Ye warblers that bill on the spray,
Ye lambkins, that wantonly roam,
Come round, and attend to the lay—
Then "blest, and your master be-
moan;"

For a tender, good shepherd, was he,
So true and so kind to his trust,
With mildness he e'er painted thee,
No swain, sure, was ever so just.

His manner how soft and serene!
How pleasing his shape and his air!
No mortal like him e'er was seen,
No mortal with him could compare;
For he was so gentle and kind,
That birds cluster'd round in a
throng,
And all in full harmony join'd,
Whenever he echoed his song.

But, ah! the dear Colin is gone!
No longer he sings thro' the Grove;
No longer beneath the gay Thorn*
He pours forth his accents of love:
Then fare well! O favourite Bard!
Adieu! my dear Colin! adieu!
Thy Worth I shall ever regard,
To thy Fame I will ever be true.

* Mr. Cunningham would frequently lie
about in the fields, under a Hedge or a
Tree; in which situation he wrote many of
his Pastorals.

To a LADY, with a Description of the Phoenix.

LAVISH of wit, and bold appear
the lines
Where Claudian's genius in the Phoe-
nix shines;
A thousand ways each brilliant point
is turn'd, [dorn'd;
And the gay poem, like its theme, a-
A tale more strange ne'er grac'd the
poet's art,
Nor e'er did fiction play so wild a part.

Each fabled charm in matchless Ca-
lia meets, [Sweets;
The heavenly colours and ambrosial
Her virgin bosom chaster fires supplies,
And beams more piercing guard her
kindred eyes:

O'er-flowing

O'er-flowing wit th' imagin'd wonder
drew,
But fertile fancy ne'er can reach the
true.

Now buds your youth, your cheeks
their bloom disclose,
Th' untainted lily, and unfolding rose;
Ease in your mien, and sweetness in
your face,
You speak a Syren, and you move a
Grace;
Nor time shall urge these beauties to
decay,
While virtue gives what years shall
steal away:
The fair, whose youth can boast the
worth of age,
In age shall with the charms of youth
engage;
In ev'ry change still lovely, still the
same,
A fairer Phoenix in a purer flame.

On DIVINE MERCY.

MERCY, dear, tender, heavenly,
charming name!
To the bewilder'd in the maze of vice,
The lost, the ship-wreck'd in the storms
of life;
To the surrounded by despair and
death;
When all is gloom, and the poor woe-
chain'd soul,
Immur'd in darkness, dreads still worse
to come:
How sweet a ray of hope!—a ray of
hope,
That Mercy, Mercy, infinite, eternal,
Yet yearns o'er misery, and yet will
yearn.
Sweet beyond sweetness—beyond beau-
ty, beauteous;
Glorious, beyond all glory; more im-
mense
Than all conception of immensity,
O universal Parent, is thy grace!

A Candid REVIEW of NEW BOOKS
on AGRICULTURE, &c.

A Treatise on Forest Trees, &c. By William Boucher.

[Continued from our last.]

MR. Evelyn's "Discourse of Forest Trees" was the first
treatise on the subject, of any consequence, that was pub-
lished in this kingdom. It is an excellent performance, and
perhaps its best panegyric is its having been copied or abrid-
ged by almost every writer that has succeeded him. Those
who will be at the pains to compare his 'Discourse' with
what Bradley, Miller, Langley, &c. have written, will see
the justice of this remark. We are equally well pleased with
Mr. B. to hear that a new edition of this valuable book, with
additions, is preparing for the press.

Cook immediately followed Mr. Evelyn, and says, that he
communicated to him his method of raising the ash; but the
subject was too much exhausted; and the old gardener's book,
though far from being a despicable one, served only as a foil
to the merits of its predecessor. Since his time we have had
little more than transcripts from Evelyn and Cook.

We cannot help remarking, that the general method of raising forest trees must ever be the same. The soil must be digged, cleaned, and manured, and the seeds sown, or the suckers laid; the plants must afterwards be removed to the nursery beds, where they are to be weeded, pruned, and watered; and at last transplanted to the spot where they are to remain for timber. Nothing new can be offered on this head; and hence the numerous repetitions of what former writers have said, in every modern treatise. But then, to practise this with a superior degree of excellence and merit, a peculiar address is required in every one of the different stages and manœuvres, which can only be attained by close application and experience; and of which a very faint and imperfect idea can be delineated upon paper.

Mr. Boutcher's profession as a nurseryman, and his informing us, that "the best rules hitherto directed are here extended and improved; and that so many new observations are made as to render a very considerable part of the work an original performance," have raised the expectations of the public; how far they will be answered or disappointed will (after what we have given in our last number) appear by exhibiting a copious and particular account of his method of raising the elm tree, his rules being given at large, which it was afterwards unnecessary for him to repeat in raising the other species of timber trees.

The Treatise now before us contains 41 chapters. From chap. 1 to 24, Mr. B. treats of deciduous trees with their different species, viz. the elm, beech, plane, maple, oak, ash, lime, hornbeam, walnut, chestnut, horse-chestnut, larch, virginian tulip, acacia, wild cherry, poplar, lote or nettle, laburnum or bean trefoil, alder, birch, service, judas, elder, and tamarack. The next 12 chapters treat of ever-greens, viz. the pine, fir, cedar, cypress, arbor vitae or tree of life, ever-green oak, cork, holly, yew, laurel, bay, and the arbutus or strawberry tree. In the 37th we have a long and particular account of the culture of thorns from the time of sowing the seed till they are fencible hedges; the 38th chapter treats of the propagation of trees by layers; the 39th, is on grafting and inoculation; the 40th, on forests and woods, and the most speedy manner of rearing them; and the last chapter contains directions for making trees fit for removal, that have stood uncultivated, and too thick in nurseries or woods.

Mr. B. enumerates eight species of the elm tree; but "where the soil is dry, sound, and generous, and the climate [we suppose he means the *situation*] good, there is no species of the

the elm yet familiar to us equal in beauty to the true small-leav'd English from layers of its own kind; being by much the best method of propagating them."

The manner in which young elms are layed, so as to produce a great number of plants, is sufficiently understood by the nurseryman and the gardener, and of course it will be superfluous for us to transcribe it; but "when the layers are sufficiently rooted (having prepared a spot of good mellow ground) carefully uncover the plants, whose fibres are at this time extremely tender; raise them gently up with the spade, and with a sharp knife cut them off at the extremity of their roots.---Having separated them from their mothers, trim away only the small hairy fibres that are bruised and broken, which are apt to mould and endanger the tree; but be very sparing of what is fresh and sound, shortening them and the principal roots moderately, though many fashionable gardeners make a little too free in this point by cutting most of them away, endeavouring to shew their address by making trees grow without them; keep them as little time as possible out of the ground; cut them over about a foot in height and plant them in lines about three feet asunder, and eighteen inches distant in the line; here let them remain two seasons, when they should again be cut over, in the beginning of March, within two or three inches of the surface [of the ground.] By this time the plants will be well rooted, and the succeeding summer, in a good soil and temperate season, they will produce strait clean shoots, four and [or] five feet high.

"In March following prune away all strong lateral and ill-placed branches close to the stem, but leave several of the smaller shoots, more or less as the plants are thick or slender bodied, to detain the sap and augment the trunk of the tree; the not observing which [leaving several of the smaller shoots] is one great cause of *seeing* so many trees grow without proportion to great heights with slender bodies and heavy tops unable to support themselves, but bending almost to the ground with every gust of wind, from which of course they never can arrive to magnitude or beauty. Here these trees may remain another year, when if they are intended to be made fit for transplanting at large sizes, they must be removed to another nursery, and planted at greater distances. It may here be necessary to observe, after having cut over your elms, or indeed any other tree, that as soon as the young shoots appear, you should cut off all but the most promising one, which will much advance the growth of it."

We

We cannot enough recommend the doctrine laid down in the beginning of the last paragraph with respect to the pruning away all the *strong* lateral branches close to the stem, and leaving only the smaller ones.

Mr. B. is aware of an objection arising "from so much time, land, and labour being lost in cutting over trees [so often] before [they are] ready to sell," which he endeavours to obviate by informing his readers, that "a person of taste and knowledge in gardening will reward their patience and industry, by readily paying a higher price for a handsome vigorous plant than for an unshapely stunted one." Of this the nursery man will be the best judge. But "I will boldly affirm," says he, "that though a little more land and labour is bestowed, there is in the end no time lost, but much time saved by this operation, as in four or five years, these [plants] cut over will be considerably larger than the others, with this further desirable circumstance, that in place of being ragged, unsightly, and ill-rooted, they will be strait and clean skinned, with a much greater abundance of roots. In short, cutting over establishes the plants, by diverting the sap to the roots, frees them from the injury and concussions of the winds, and makes them produce handsome and generous shoots, infinitely preferable to such as are abandoned to nature and accident without this discipline; and when seasonably practised nothing will so much accelerate the success of plantations for many years."

"Thus," he continues, "having directed the best methods of treating these plants in their early stages, and which indeed is all the culture commonly bestowed on them [not surely by the nurserymen in the south of England] for whatever purposes they are designed, or at whatever sizes to be removed, I proceed to their management for a succession of years, with a view of their being transplanted when large trees, and which, by observing the rules here laid down, they may be, with the most certain success to any size capable of being raised and transplanted." [This is promising a great deal.]

"These trees, if planted in a good soil, having now arrived to the height of six or seven feet, and the ground prepared by a good digging, which on this occasion I prefer to trenching, (as deep loose soil would invite the roots downwards, whereas the *present* system requires their spreading as much as possible near the surface) raise your plants carefully with all their roots and herby [*hairy*] fibres; reduce the downright

downright shoots considerably, but only smooth with a sharp knife the extremities of the spreading ones, and whatever earth adheres to the fibres, if the distance is small to their *new quarters*, should be preserved, cutting away only some of the smallest straggling hairy parts; for roots are the mouths that suck in the nourishment and transfuse it to all parts of the tree. [A very trivial remark.] The roots thus prepared, prune away close to the body all ill-placed straggling branches, leaving only a few of the smallest to detain (as has been said) the sap, and swell the trunk of the tree: plant them in lines four feet asunder, and eighteen inches in the line; let them be watered to settle the earth about their roots, and in this situation they ought to remain two years only."

"From this nursery they are to be removed to another, dressing their roots and bodies as at [the] last removal, where they are to remain three years; they are again to be removed and to continue four years, but not without plentiful waterings, which must be increased in proportion to the age and size of the trees. The ground between the lines ought to be well dug every spring and autumn, which will much increase the number and promote the spreading of the roots, and of course the growth of the plants. [Another superfluous trifling remark.]

"The trees being now twelve years old, and in good land, [in the nursery] will be from twenty to twenty-four feet high, and may either be planted out where they are to remain for good, or *again* removed to the fields [this is a mistake, probably of the printer] or any spot of land most convenient--- where any time from three to seven or eight years, they may not not only be removed with undoubted success, but with such abundance of earth adhering to them, and such strength and proportion of body, as to defy the rudest assaults of the winds, even at first planting, without staking or any other support; which, though an almost universal practice, is notwithstanding the result of ignorance, and is only necessary to support the defect of good culture by propping trees that have been injudiciously managed, as none of the strait-growing pyramidal trees (the deciduous kinds more particularly) have the least want of that aid, *if the directions here given are attended to.*"-----We are not convinced by any thing that Mr. B. has advanced that trees *twenty years* old and upwards of *thirty feet* high, will, when removed, "even at their first planting" defy the rude assaults of our high westerly winds, without staking or any other support.

Mr.

Mr. B. seems to feel the objection that may be made on account of so much land being required for the purpose of such extensive nurseries and these frequent and reiterated transplantations; and therefore directs the intermediate spaces to be cropped with turnips, onions, leeks, carrots, beans, cabbage, collyflower, &c. which, he says, may be done without the smallest injury to the trees, or the herbs receiving any injury from them; and that the annual returns from the kitchen crops among the trees, if well cultivated, will go far to pay both the ground-rent and labour.---We must confess that we should not plant *beans* among young trees that are only four or five feet asunder in the lines.

Mr. B. concludes his account of this tree in the following words: "I have sold English elms of my own raising, at 24 years growth, for a guinea the tree, and these not picked from quantities, but a whole line of them, above 60 in number; they were generally about 18 inches diameter, a foot above ground, and 40 feet high.---*Credat Judæus!*"

Though Mr. B. has given us such ample and minute instructions for "the culture of this noble, beautiful, and useful tree, which so well deserves our utmost care and attention to bring it to perfection," yet he has almost totally forgotten to tell us what soil is most proper and best adapted to forward its growth when planted to remain for timber. He indeed says, that when the soil is "dry, sound, and generous," [Mr. Evelyn calls it sound, sweet and fertile] the true small-leav'd English elm will exceed all the other species in *beauty*; but this is a very defective account of the nature of the soil in which this tree is supposed to delight, and which ought to have been more particularly specified in a work of this nature.

From the preceding extracts we see that the assumed superiority of Mr. Boucher's rules for raising trees principally consists in the more frequent transplantations and cuttings over; whether they are not too frequently repeated time and experience must determine. We think however this method ought not to be applied indiscriminately to *all* timber trees, though it may succeed very well with the elm, which, as Mr. Evelyn observes, is one of the most patient of transplantation.

We agree with Mr. B. that the proper cutting over and pruning the plants while in the nursery till they are six or seven feet high tends greatly "to establish them;" after which we would recommend but *one* more remove till they are from twelve to sixteen feet high, when they may be transplanted into the fields, &c. to remain for timber; but as Mr. B. so often assures us that he speaks from *experience*, we would not pretend

pretend to insinuate that he has not been successful, though we still think that he carries his system too far.

With respect to the oak, it is superfluous for us to say that it is naturally a slow-growing tree; but we have often had opportunities of observing, that the slow-growing oaks on clay soils produce much better and more solid timber than those which grow quick on the warm dry soils. The pollard oaks on clay soils are generally sound, while those on warm gravelly soils are more frequently hollow.

Mr. B. is not so correct in his style as we could wish, which our readers will see in the remarks we have made in the quotations; and in this respect we think him culpable. The didactic style should always be plain, expressive, and correct; for a trifling error in the language may lead to fatal ones in reducing the rules to practice: to this Mr. B. will, no doubt, pay a little more attention in a second edition; and if he will take our advice, add one chapter on Aquatics.

Notwithstanding the objections we have started, we think the performance a valuable one, as it contains the best practical rules for raising and managing forest trees of any treatise extant. Mr. B. has given us in a short compass (for his book is not a large one for the price) the substance of what his predecessors (already mentioned) have published on the same subject, interspersed with a variety of useful and original remarks: with some of these we shall enrich our future numbers; and what he says on raising fences will appear with propriety before the season for planting them commences.

The Cattle-Keeper's Assistant, or genuine Directions for Country Gentlemen, Sportsmen, Farmers, Graziers, Farriers, &c. being a very curious Collection of well-authenticated Observations and Receipts (made by Persons of Note and Experience) for the Cure of the most common Distempers incident to Horses, Oxen, Cows, Calves, Sheep, Lambs, Hogs and Dogs. Digested under their proper heads. By Josiah Ringsted, Esq. London, Dixwell, 1s. 6d. sewed.

THIS is a collection of receipts from almost innumerable authors, and other collections of receipts and nostrums. Among a great many foolish and absurd recipes, we observe some good ones however, that, to those who do not already know them, are well worth the price of the book. But if Mr. Ringsted (if there be such a person) understood how to give *genuine directions*, we wonder that he should publish so much trash along with his "well-authenticated observations and receipts;" he ought to consider, that a farmer's live stock ought

is often of great value, and not to be trifled with in cases where the life of an animal, worth perhaps 20*l.* is at stake.

Having given us the substance of Bell's "Pocket Farrier," an useful little pamphlet, Mr. R. says, "we shall add a few more approved receipts communicated by this society;" but what *society* this is no mortal but himself knows: these *few* additional receipts are upwards of THREESCORE.

We often lament the want of a good treatise on the management and disorders of neat cattle, and as often wish that some skilful person of good experience would rescue the subject from the hands of such ignorant pretenders as M. and R. and many others that we could name. The work could not fail to meet with a reception from the disabused public, which would equal the author's warmest wishes.

CORRESPONDENCE.

IN selecting the several articles, we have endeavoured to give as great a variety as possible; and it is our determined resolution not to insert a single article but what is either useful, curious, or entertaining.

A Friend from Gloucester recommends two subjects to our consideration, in order to extend and improve our plan. The first is, some good forms for the most useful common conveyances, bonds, articles of agreement, &c. together with the price of the stamps on which they are to be drawn. This we shall comply with as soon as the new act fixing an additional price on the stamps is published; having some forms already drawn by an able conveyancer. The other relates to Brewing, which will of course appear under that article in the Dictionary.

The answer to our second query was not received time enough for this month; but will appear in our next; together with rules for choosing *Spectacles*, in answer to a correspondent.

The Old Farmer's rules for shoeing horses that are liable to trip — Sir Robert Walpole's receipt to make red port — And the West-Country Farmer's receipt for the *Scour* in a cow, will all be inserted.

The method of laying *Ant-hills*, already promised, will, we think, more properly fall under that article in the Dictionary, where it will soon appear.

The dissertation on manures in our next; and the answer to Mr. L. on drying herbs in the sun rather than in the shade.

E R R A T A.

In our last, p. 6 and 8, for *Dr. Shaw*, read *Dr. Pococke*.

Under *ALDER-TREE* in the Dictionary, near the end of the last paragraph but one, read "detain the *sap*."

The Farmer's Magazine,

Useful FAMILY COMPANION:

NUMBER III. (for June 1776,) Price 6d.

Embellished with a beautiful Print of a DOUBLE PLOUGH,
which plows two Furrows at once.

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To which is added,

A GENERAL DICTIONARY of Husbandry, Planting, Gardening, and the Vegetable Part of the *Materia Medica*: Containing a great Variety of new and useful matter, with many original Articles.

By AGRICOLA SYLVAN, Gentleman.

Printed for W. GOLDSMITH, No. 24, in Pater-noster-Row;

And R. CRUTTWELL, in BATH;

And sold by every Bookseller, Stationer, and News-Carrier, in the Kingdom.

PRICE of CORN at MARK-LANE.

Monday, June 24.

Wheat, per quarter,	30s to 37s od
Barley, - - -	16s to 24s od
Rye, - - -	23s to 25s od
Brown Malt, - -	27s to 29s od
Pale ditto, - -	27s to 31s od
Oats, - - -	12s to 18s od
Essex Beans, - -	26s to 27s 6d
Tick, - - -	25s to 28s od
Boiling Pease, -	40s to 42s od
Hog ditto, - -	23s to 25s od
Tares, - - -	24s to 30s od
Fine Flour, per Saek, -	29s
Second ditto, - -	26s
Third ditto, - - -	23s

Return of the Sale of Wheat at Bear-Key, on the above day.

31 Q. at 37s. 6d.	666 Q. at 35s. 6d.
35 do. at 37s. od.	738 do. at 35s. od.
89 do. at 36s. 6d.	150 do. at 34s. od.
184 do. at 36s. od.	25 do. at 33s. od.

Price of Hops in the Borough.

Pockets, - 3l. cos. to 5l.	5s.
Bags, - 3l. 10s. to 4l. 10s.	

The ASSIZE of BREAD, as set by the Lord-Mayor of London, Thursday, June 13th. lb. oz. dr.

The Penny Loaf, Wheaten, 0 11 2	Household, 0 14 10
Two-penny Loaf, Wheaten, 1 6 4	Household, 1 13 4
Three-penny Loaf, Wheaten, 2 1 6	Household, 2 11 14

To weigh, To be sold for, lb. oz. dr. s. d.

The Peck, 17 6 0	Wheaten, 2 0	Household, 1 6
Half Peck, 8 11 0	Wheaten, 1 0	Household, 0 9
Quartern, 4 5 8	Wheaten, 0 6	Household, 0 4 1

PRICES of STOCKS.

Bank Stock, —	
India Stock, —	
South Sea, —	
3 per cent B. Red. 84 1/2 a 1/2.	
3 per cent Con. shut.	
3 ditto, 1726, —	
3 1/2 per cent 1758, —	
4 per cent Con. 88.	
Old S. S. Ann. —	
New ditto, Ann. 83 1/2 a 1/2.	
3 per cent. 1751, shut.	
India Ann. 79 1/2.	
Long Ann. —	
India Bonds, 55s a 36.	
New Navy Bills, 2 1/2 per ct. dif.	
Omnium, —	
Scip, 84.	
Lottery Tickets, 17l. 13s. 6d.	

WHITECHAPEL.

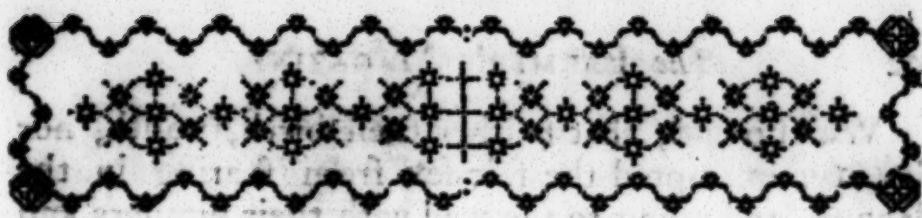
Hay, 2l. 10s. to 4l.	per
Straw, 1l. 14s. to 1l. 18s.	load.

SMITHFIELD-MARKET.

Beef, per stone,	2s. 4d.
Veal, - - -	2s. 8d.
Mutton, - -	2s. 8d.
Lamb, - - -	3s. od.

BANKRUPTS.

Wm. Usher, sen. and Wm. Usher, jun. of Leadenhall-market, poulterers. William Goldby, of Gray's-inn-lane, coach-maker. Tho. Southall, of the Strand, jacksmith. John Shiff Ta- hourdin, of Fleet-street, chymist. Benj. Robertshaw, of Christ church, Surry, cheesemonger. Wm. Ward, of Shep- herd's green, Oxfordshire, dealer. J. Rumsey, of Bristol, grocer. Rd. Snagg, of Fleet-street, bookseller. John Sink, of Ockham Mills, Surry, miller. Wm. Bispham, of Liverpool, hatter. Robert Hamilton, of Leeds, Merchant. Geo. Gardiner, of Chandos-street, brazier. Wm. Worthington, of Nottingham, ho- fier. Daniel Ayrey, of Barnaby-street, distiller. John Dupy, of St. Clement Danes, wine-merchant. Geo. Allen, of Pater-noster-row, bookseller. John Macfe, of Stepney, man's-merc. Tho. Ward, of Guildford, coal-merchant. Joseph Adams, of Birmingham, gun- smith. Wm. Payne, of the Liberty of the Rolls, carpenter. John Hamer, of Bury, baize-maker. Wm. Skinner, of Tavistock, iron-monger. John Mor- gan, of Caerleon, maltster. Thomas Robinson, of Chester, coal-merchant. John Radenhurst, of Helwell in Che- shire, merchant. Thomas Hearn, of Rotherhithe, warehousman. Edmund Pitman, of Odiham, money-scrivener. John Ryland, of St. Martin's Ludgate, printseller. Thomas Smart, of Had- leigh in Suffolk, innholder. Joseph Collis, of Monmouth, tallow-chand- ler. Wm. Bowler, of Horstead in Sus- sex, dealer. Samuel Smith, of Dork- ing, upholder. Edw. Barlow, of Sa- vage-gardens, wine-merchant. Adam Wright, Wm. Wright, and Adam Bar- nard Wright, of St. John's-street, Cler- kenwell, distillers. Francis Sinclair, of Liverpool, joiner and haberdasher. Gabriel Cox, of Snow-fields, builder. James Finch, of Holborn, cabinet-ma- ker. Stephen Miles the elder, of Kid- derminster, goldsmith, grocer, and pos- ter. Thomas Chancellor, of Bridewell Precinct, dealer. Wm. Ballantyne, of Thames-street, merchant.



T H E

FARMER'S MAGAZINE.

A DISSERTATION on the Progress and present State of
AGRICULTURE; with a concise Account of the
best English Writers on the subject. [Continued.]

THE Patriarchs by their example ennobled the profession. It is plain from the history of Abraham, that notwithstanding his simple manner of life, he was not looked upon as inferior to any of the cotemporary princes, though he despised those pompous titles and royal grandeur they so much affected. His riches, and those of his sons, consisted chiefly in a prodigious quantity of cattle, and they were obliged to keep a proportional number of servants to look after them. But this did not exempt him or the succeeding Patriarchs from a laborious life; they were indeed obliged to live in tents, and to remove often for the benefit of water and pasturage; how laborious this was in those hot countries, where water was scarce, and where it seldom rained, may be gathered from Jacob's complaint to Laban. It is to be remembered, that in the first simplicity of mankind for many ages, men looked after their own cattle, or employed their children in it; and when they trusted that care to any other person, it was no small sign of their confidence.

To this pastoral life they likewise joined agriculture when concurring circumstances permitted,

We also find, that neither their birth, youth, nor beauty, exempted the fair-sex from sharing in the labour, and going to the well with their pitchers and watering their flocks at proper seasons, as appears by the account we have of Rebecca, Rachel, &c, and of Jethro's daughters some hundreds of years after them. Moses, though instructed in all the learning of the Egyptians, yet when he fled into Midian, he kept his father-in-law Jethro's flock for forty years; during which period it is supposed he either wrote or translated the book of Job.

However distasteful this primitive simplicity may appear to our present age, yet Homer will tell us how much and how long it was imitated by the Greeks. According to that poet, the chief employment of the seven sons of Ætion, king of the Sicilians, was the keeping their father's flocks; and we find that kind of life extolled not only in Sicily and Greece, but likewise in Syria and other countries above 1500 years after Abraham, in some of the most beautiful pastorals of antiquity.

This laborious life seldom failed to keep them in a good state of health; and as they never wanted a good appetite, or a good digestion, so they were the more simple in their way of living. The milk of their kine, and the fruits of the earth, were their common diet; a kid, a fatted calf, or a dish of venison, were reckoned a rich feast. One would think that Homer had drawn the picture of his heroes in his *Odysseis* after that of the Patriarchs, so far was he from thinking such a life unworthy of the greatest men.

This active life and simple diet was likewise an effectual means to lengthen their days, and to make their deaths sweet and easy. All those whose ages are recorded by Moses lived to exceed 140 years, Joseph only excepted. His courtly way of living seemed to have shortened his days, for he was only 110 when he

he died; of which he lived 80 in that pinnacle of grandeur to which Pharoah on account of his great wisdom and merit had raised him.

The once happy and fertile country, now called Palestine, and the Holy Land, was first peopled by Noah's grandson, from whom it was called the Land of Canaan. After it was promised to Abraham, it was frequently stiled the Land of Promise. The tribe of Judah possessed the finest and most fertile part, and hence it was called Judæa, and sometimes Palestine from the Palestines, or Philistines, who possessed a great part of it.

Before the Israelites entered the Promised Land, Moses described it in these emphatical terms: "A land that floweth with milk and honey; a land of brooks and waters; a land of wheat and barley, of vines, figs, and pomegranates; of oil, olives, and honey; a land where there is no lack of any thing." All this the Israelites found literally true, as plainly appears from the pusillanimous spies and the fruits they brought from thence as a specimen of the rest. He promised them, in consequence of their obedience, neither gold, silver, nor precious stones, stately houses or sumptuous furniture; but the former and latter rain, regular seasons, plenty of corn, wine, and oil, increase of cattle, multitude of children, and victory over their enemies; all which, joined to the natural fertility of the soil, and the excellent temperature of the air, which was never subject to excessive heats or colds, proved such powerful encouragements to agriculture, that there is scarce any known people that gave themselves more entirely and universally to it than the Jews.

The land even exceeded Egypt in cattle, and in the quantity and excellence of its oil, wine, and other fruits. The soil was naturally so rich, fat, and fertile, that it required little or no manuring, and could be ploughed with a small kind of plough and a single

gle yoke of oxen. The corn was so excellent that the bread of Jerusalem was preferred above all other; their vines yielded grapes twice; and they had likewise the greatest variety of other fruit trees. They had honey in great plenty, and the balsam shrub, which produces that precious drug called Balm of Gilead.

Sugar canes were cultivated in Palestine in great abundance; cotton, flax and hemp used by the inhabitants were mostly of their own growth and manufacture, except some of a finer sort brought from Egypt and worn by those of higher rank. So many are the proofs both in scripture and other writings of the extraordinary fecundity and populousness of this once happy land, that it must appear absurd to call them in question merely on account of the desolate and melancholy figure it now makes under a Turkish tyrannical government.

Antiently the most desert and barren places, even the naked rocks, were made to produce corn, pulse, or pasture, by the industry of the old inhabitants, who covered them with mould, and then inclosed them with stone walls; which through the laziness of their successors have been thrown down and the earth washed off with the rains.

Their kings themselves encouraged all kinds of agriculture both by precept and example; the only difference between whom and private men was, that they had more lands and more numerous herds and flocks. Thus we read that Doeg was the *chief* of Saul's herdsmen; and in the enumeration of David's riches, notice is taken of his arable and pasture grounds; of his store-houses for corn, wine, and oil; of his plantations of fig, olive, and other fruit trees; his numerous herds of oxen, camels, sheep, and asses.

Solomon not only multiplied the cattle, but took great pains to surpass all that preceded him in the number

number and elegance of them. The land produced such prodigious quantities of corn, &c. that he could spare 20,000 measures of wheat, and 20,000 measures of pure oil, to Hiram King of Tyre for his household, and the same quantities of barley, wheat, wine, and oil, to his servants who were employed in building the Temple, independent of what was exported to other countries. Besides all this, he built several store cities for his chariots and horses, for his magazines of corn, wine, oil, and other provisions and ammunition.

Uzziah, being a great lover of agriculture, employed a great number of husbandmen, and vine-dressers, besides shepherds to look after his numerous herds and flocks, whereby he acquired considerable wealth. Hezekiah was also a great encourager of husbandry, and had numberless flocks and herds in his own pasture grounds.

As every family among the Jews possessed an independent unalienable inheritance, there was no access for luxury or ambition, nor any danger of a family being totally ruined. Every man cultivated his own vine, field, orchard, &c. and could indifferently handle the plough and flail, or the sword and bow; though he still preferred a quiet life under his vine and fig-tree.

The Jews applied themselves but little to trade and manufactures before the time of David and Solomon. In short, the plainness of their food, cloathing, and furniture, rendered many manufactures unnecessary till a more luxurious way of living was introduced among them. Their laborious and active life accounts for that valour, strength, swiftness, and surprising exploits, for which they were so highly extolled.

When they returned from the Babylonish captivity, they again applied themselves to agriculture, and exchanged their corn, wine, and oil, with the Tyrians

Tyrians and Sidonians for materials to rebuild their Temple. After the death of Nehemiah the face of their government was wholly changed. The administration of the Jewish state was, by the governors of Syria, committed to their high priests; a set of men who often aspired to that high dignity through ambition and avarice; from which time we may date those misfortunes that afterwards befel their nation.

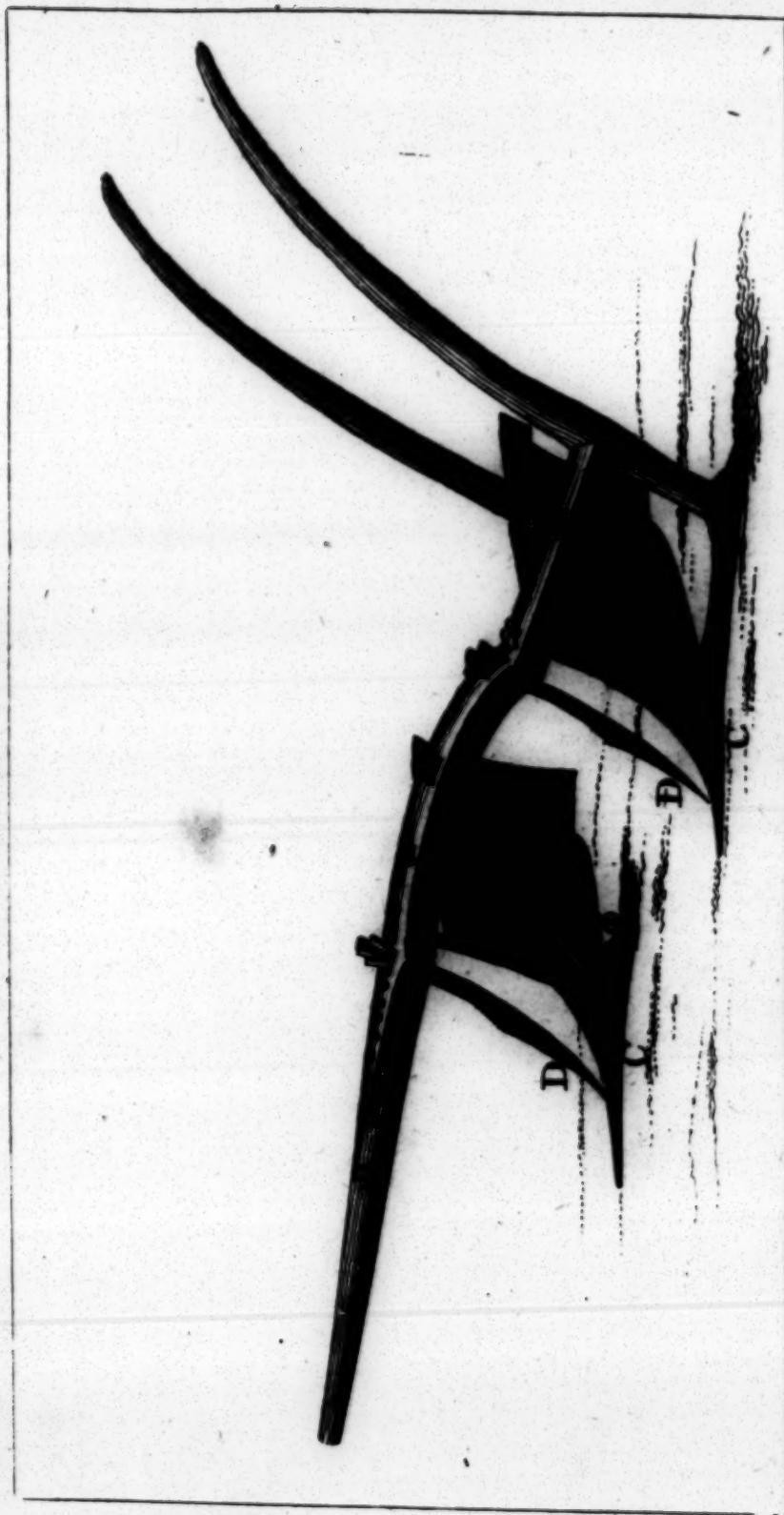
Since the time of Titus Vespasian their country has been under the visible curse of God; and its few poor inhabitants, groaning under an intolerable servitude, have contracted an insuperable aversion to labour and agriculture farther than what barely serves to supply their present wants. However, Dr. Shaw and others who have viewed it in its present desolate condition, tell us, there are still such visible signs of its natural richness and fertility, as plainly shew that the want of cultivation is a principal cause of its present poverty and barrenness: and a similar observation is made by Bishop Burnet with regard to the once fruitful plains of Lombardy, and Campania di Romana.

The Midianites, in their infancy, applied themselves not only to keep flocks, but to traffick, by which means they became exceeding rich, for which they were always celebrated in antient history. When they were spoiled, and Balaam slain, the number of cattle, sheep, and asses, brought away by the conquerors, was very great.

The Ammonites seem to have been chiefly addicted to husbandry. They paid to Jotham, King of Judah, 10,000 measures of wheat, and so many of barley, though they did not possess a very large country.



Engraved for the Farmers Magazine.



The Double Plough to go with or without Wheels.

*A the Broad Boards C the two Iron Shares
B the Beam D the two Coulters E the Sheaf's.*

ARTICLE II.

On the Double Plough, which plows two Furrows at once.

With a PLATE.

WE have here given a plate of the Double Plough, which for some purposes is, one of the most useful ploughs that ever was invented. Any experienced plough-wright may make one by the print, if he observes the following remarks, it being nothing more in fact than two ploughs fixed to one beam: one goes before the other, but not in a direct line, for the beam is bent or crooked so much towards the right hand as is equal to the breadth of the furrow intended to be turned over.

In most of these ploughs that we have seen the leading plough is not set forward enough, so that the furrow is not completely turned over quick enough, by which means the hinder plough is frequently clogged. Some have endeavoured to remedy this inconvenience by placing the hinder part of the broad-board of the first plough so full against the furrow that it is almost at right angles with the share. This is an attempt to cure one fault by committing another; for it is hardly possible to plow land with it that has for some time been laid down to pasture, because the broad-board thus placed drives the furrow too much before it, which has contributed to bring the plough into discredit with those who did not well understand the principles upon which it was intended to act.

The best method is to make the beam a little longer, and to set the leading plough a little forwarder, and then the inconvenience complained of will be avoided.

With respect to its utility, it is most admirably adapted to plow light land in the most expeditious manner, as it requires but one additional horse; and in this view nothing can be better adapted for giving a field the last earth when it is intended for barley or turnips.

Some are of opinion that wheels make a plough go lighter and easier by diminishing part of its friction; but this we can by no means comprehend, as in common ploughs they are not placed so as to produce any such effect. They have a tendency to make a plough go more *steadily*, and this in our opinion is all that can be expected from wheels, in whatever manner they may be placed.

The friction of the plough against the ground has been attempted to be lessened by introducing a wheel or roller under the plough and another on the side to move horizontally. Without entering fully into the merits of these ploughs, we shall only observe, that it is morally impossible these wheels can move freely and answer the intention in moist land, or in wet weather. The inventor would have known, had he been a Farmer, that the wheels would immediately clog where either the land was very foul, or moist and adhesive.

ARTICLE III.

On the best Method of treating very poor Land intended for Tillage when first inclosed, with a Remark or two on deep Ploughing.

S I R,

I Have read with pleasure your remarks on deep and shallow ploughing. I have often seen the experiment tried. An acquaintance of mine has almost ruined some part of his estate by plowing too deep; for we have a kind of orange-coloured hungry barren sand or gravel under the soil, which if once ploughed up will tire the patience of the farmer before he can bring the land into good order and temper again so as to bear him good crops. As we know this by experience, to what purpose should people blame us for not ploughing deeper. O, but says Mr. Young, if you plough deeper you have only to add more dung in proportion;---but I beg leave to deny that dung will sweeten this kind of earth in any reasonable time to make it worth a farmer's while to lay on an additional quantity of dung, if he has it to spare. Where my land will allow of it I sometimes try to plow up some fresh earth, and so do some of my neighbours, but we are very cautious.

We have obtained an act to inclose part of Mendip; and if you know that large, wild, poor common, I should be glad to know your sentiments (for I think you *profess* to know a good deal) on the best method of treating the land intended for tillage when it is first inclosed.

Your's,

Near MENDIP.

A. B.

[With respect to our *professing to know a good deal*, we refer to our ADDRESS TO THE PUBLIC, and we hope our readers have not yet any reason to complain, or to think that we have deviated from our

our profession. Our correspondent's remarks on plowing deep or shallow serve to confirm those already made by COLUMELLA in our first number. We would recommend the trial, and indeed all kinds of experiments to be first made on a small piece of land, and then, if they did not answer, the expence would be trifling when compared with the satisfaction arising from the experiments. We have known an experiment of *deep plowing* tried upon near an hundred acres of bad land at one time; but the gentleman gained too much knowledge by his experiment ever to repeat it, or any other, on so large a scale.

We recollect to have crossed *Mendip* two or three times, and from such cursory views we are strongly inclined to recommend *paring and burning the turf*, (for it is a very old one, and probably harbours a great many slugs, snails, &c.) and then to sow turnip seed; this method very rarely fails to produce a good crop of turnips, and after saying this, it will be superfluous for us to add, that the land will afterwards bear any other crop the farmer may chuse.

A few of our readers have objected to our giving immediate answers to our correspondents; they think we are rather forward and unpolite, and that they ought to be published and left unanswered till the next month, as this would afford our other readers an opportunity of offering their sentiments, to which, if necessary, we might add our own. To this we gladly reply, once for all, that when the letters are immediately addressed to us, requesting our sentiments, we think it our indispensable duty to give an immediate answer; but then we have always observed, and wish it to be always so understood, that we by no means intend to preclude the observations or remarks that may be made on the same subject by any of our readers.]

ARTICLE IV.

Baron Van Haake's Card.

BARON VAN HAAKE to the *scandaleuse et malicieuse*
MONSIEUR SYLVON.

A C A R D.

VAT your opinion vort Ivonder? Me prefer de Norfok farmeer---he use my salt ver much, which he find to be ver excellen vor de tornepe.

If me catch you at my alum vorks, me make von ver deefil of you, me soufe, me dip, me drench you in the salteeris till poor Monsieur Agricola Sylvon be von fit husband for Lot's wife.

[When the *honourable* Baron catches any of us at his alum vorks, we will give him leave to exercise the severity with which he threatens us.]

ARTICLE V.

On the best Method of preserving Eggs, and knowing when they are fresh or stale.

Mr. SYLVAN,

I Now send you a method to preserve eggs. They must be laid on a smooth floor and turned every day, and they will keep several months. If you have a great many to turn, you may do it most easily with a common kitchen hair broom.

Other methods are recommended in books: one is, by putting them in bran with the small end downwards; another is, to rub them all over with suet, but they are not to be depended on, for in warm weather the yolk, or white, or both, will grow to the shell if the egg is not often turned, and then it will soon be spoiled.

The method so often published in books to know when eggs are fresh or stale by applying the tongue to the large end, is equally without any foundation from experience; for as there is a small vacancy at the large end of the egg, and the shell is very thin, it soon becomes warm by applying the tongue, and so deceives many persons; but in fact it is no warmer than the small end before such application. If a new-laid egg is held up against the flame of a candle it will appear quite transparent, but the next day it will show as if small flakes were forming in it, which will afterwards grow larger; and as soon as it begins to grow stale and unfit for use, the shell will become spotted and glossy.

LUCINDA.

[We dare venture to return thanks to *Lucinda* in the name of all our readers. We hope she will continue her favours. Perhaps she will thank us for the next article.]

ARTICLE VI.

To dye Silk, &c. yellow with Indigo.

SIR,

I Have tried your receipt to dye blue with oil of vitriol and indigo, and think it a very good one; but if *agua fortis* be used instead of oil of vitriol the effect will be very different, for it will dye a fine yellow, instead of blue.

The

The aqua fortis should be lowered with an equal quantity of water, or it will burn the indigo; and the bottle must not be corked for some time; for though the indigo does not effervesce with oil of vitriol it will very strongly with aqua fortis.

C U R I O S U S.

ARTICLE VII.

Remarks on the true Standard Weight of a Guinea, as delivered at the Mint.

Mr. SYLVAN,

I Have, agreeable to your request, sent you an account of the true standard weight of a guinea, as it is delivered at the Mint. The standard was fixed many years ago, and has not since been altered, notwithstanding the alteration in the price of gold. A pound of gold, Troy weight, is coined into $44\frac{1}{2}$ guineas, each guinea weighing $5-9.39$, which is after the rate of $3l. 18s. 1\frac{1}{2}d.$ per ounce, and of course is a small matter heavier than they ought to weigh if they were coined according to the present value of gold.

The great demand for new guineas, and the consequent hurry in coining, prevent their being weighed with such accuracy as might be wished; there being often near or quite half a grain difference in their weight, which the coiners seem not much to regard. A much greater nicety I find is observed by the ingenious Mr. W——T in stamping the money weights.

Chippenharn.

W. S.

P. S. It has been asserted by all the writers whom I have consulted about the method of coining, that milling the edges was the last operation the coin undergoes; but those who will examine into this matter will find that it is milled first and stamped afterwards; in fact, it would hardly be possible to mill the edges of a guinea after it is stamped without injuring the impression.

ARTICLE VIII.

To prevent Slugs or Snails destroying Garden-Stuff.

MR. SYLVAN,

I Was in hopes by this time to have seen some of your correspondents opinions on the Flemish method of ploughing in clover, vetches, &c. to manure their land. I rather wonder at *their* silence who are or pretend to be advocates for it, having observed lately that more people approve of it than I supposed, though for my part I am still of the same opinion that nothing but *absolute necessity* can be offered in support of such a wasteful piece of husbandry.

As I travel pretty much about I often hear of useful hints in one part of the kingdom that are not known in the other; the following is at your service. In some places they strew barley chaff in their gardens to prevent the slugs or snails eating their garden-stuff, for none of these kind of reptiles can crawl over it on account of the sharp prickly beards, or spills, which are in the chaff.

V I A T O R.

[Some remarks on *Viator's* former letter are just come to hand, [see our first number] but could not be inserted this month for reasons which it would be useless to mention to our readers.

We have heard of barley chaff being used for the purpose he recommends, but we believe it was never before in print; we think it superior to malt dust, which is recommended by others with the same intention. Unless a person was to travel and make remarks, he would not believe that farmers in several parts of the kingdom practise such absurdities as we could mention; or that they are so extremely ignorant of the common improvements in husbandry, that have for many years been known and practised in other parts.]

ARTICLE IX.

On drying Herbs in the Sun, or the Shade, as applied to making Hay.

S I R,

I Always thought, with the author of the rules for drying herbs, &c. in the *Farmer's Magazine*, that the best method was in the shade; but happening to dip into an old author* some time since I found him to deviate in his judgment, and

* Probably CULPEPPER.

and at the same time appealing to every farmer, whether he would chuse to dry his hay in the shade or in the open sunshine? This struck me at once; and last year I tried the experiment, and found that the herbs dried in the sun kept better, and had a finer colour and flavour; like hay, which being well made in fine bright sun-shiny weather, is much finer and better in every respect.

I am, &c.

A. W.

[The rules we have given are from the best authority, in order to preserve the medicinal virtues of the plants. If herbs are hung up in a dry airy place they will soon be sufficiently dried, without much injuring either their colour or flavour.

In answer to the question, Whether a farmer would chuse to dry his hay in the shade or in the sun? we believe we may venture to say in the former, if he could be certain of fine clear weather; but as it is so variable in this kingdom, every one adheres as much as possible to the old proverb which directs him to make hay *while the sun shines*. If hay could be tied in small parcels, and hung up in a dry, windy, or airy place, (the usual manner of drying herbs) the comparison would apply; but this cannot be done; and we need not inform our readers how much faster hay may be made when there is a little wind stirring than in a very calm day.

We have already observed, that a *quick drying* preserves the colour and flavour of vegetables in the greatest perfection: we have also remarked that a *moist* air dissolves and dissipates their odorous effluvia, which the sun locks up and retains: of this almost every person must have been sensible when he has been walking near the sweet briar after a shower of rain; and more especially, if the shower fell late in the afternoon of a sun-shiny day: to the same kind of experience we appeal when we observe how much sweeter new hay smells, and how much more the air is perfumed, at midnight than at midday, in the time of hay-harvest; and still more so if the dew be copious.

Observers of nature tell us, that some flowers smell sweetest in the morning, while others are more lavish of their sweets in the evening: this is easily accounted for. A very minute portion of moisture, the dew as it falls, is for some flowers sufficient to dissolve their subtile fragrant parts, while a more copious one is required for others; and hence the morning presents us with their richest odours.

The greatest evil then to be guarded against in making hay is moisture, whether from the rain or dews, a very small quantity being more or less injurious to it. On this principle, which (from what we have observed) we think to be incontrovertible, we recommend the grass to be cut while it is *perfectly dry*, and never to be tedded but when the ground is so; and towards the evening (before the dew falls) *always* to get it up into cocks. Though this rule

rule cannot always be observed with that exactness which the subject may require, for reasons obvious enough to every Farmer; yet the nearer he can approach to it the better and sweeter will be his hay. If he chuses to make it in swath, we would recommend a thin one; some meadow grass is however so extremely succulent, that it is hardly possible to make it into hay without tedding it, and exposing it for several days to the sun.

The less the hay is made, as we vulgarly say, the better, provided it be sufficiently made, and not carried to the barn or the rick too hastily; however, when this happens in a catching season, the method of making air shafts, or funnels, by means of a sack filled with hay, or a bottle of long straw, drawn up from the bottom of the hay-rick, stands well recommended; others place some thorn faggots in the middle of the rick, and by that means make a pretty large space, towards which the fire and exhalations coming from all sides dilute and thus lose their force.

Perhaps some of our readers will expect our opinion of sprinkling salt upon new hay while the rick is making. We must own that the bare idea (independent of experience) is to the last degree absurd. Every person knows that salt *absorbs* and *retains* moisture; to what purpose then should a farmer labour and toil to get his hay dry, and then immediately add a substance which naturally counteracts that principle. But absurd as it may seem, the experiment has been tried, and the consequence was—the hay was spoiled.

ARTICLE X.

A Receipt to make artificial Port Wine, by the late Sir Robert Walpole, communicated by a Gentleman of Fortune.

MR. SYLVAN,

IF you think the following receipt is worth inserting in your Magazine, it is at your service. I can assure you the receipt is genuine.

I am, &c.

R.

To make an Hog shead of artificial Port Wine, by the late Sir Robert Walpole.

Take 47 gallons of rough cyder,

13 gallons of Bene Carlo wine, and

8 gallons of brandy.

These different liquors must all be of the best sorts and qualities.

[We are greatly indebted to this gentleman, and hope for some future favours from him.]

It

It has been often said that there is vastly more liquor drank in London under the name of *Port Wine* than the whole country produces. Our readers will form their own judgment of this when they are told by a modern traveller that Oporto annually produces about eighty thousand pipes of this wine, of which about twenty thousand pipes are exported, the rest being drank in the country. The merchants wine vaults are very spacious, being capable of holding several thousand pipes; and the shops in half the villages are occupied by coopers, who sell the casks at about a moidore each.

Some of our readers, we are persuaded, will not be displeased by our referring them to a late trial in London about a pipe of port wine that was accidentally flaved in the street. The plaintiff grounded his action on the wine being sent according to order. The defendant put him upon his proof that it was *Port wine*. The plaintiff's principal servant on being examined, to the astonishment of the whole court, could swear to their being but a very, very few gallons of genuine wine, the rest being—what is commonly sold for *red port*.

ARTICLE XI.

An Account of the common natural Remedies used in Scotland for the Cure of various Disorders.

MR. SYLVAN;

I THINK the following extract from Mr. Pennant's *Tour into Scotland*, may with propriety be inserted in the *Farmer's Magazine*; the subject matter is exceeding useful and interesting, and the book but in few Farmers' libraries.

E—s.

"The common diseases of this country (I may say of the Highlands in general) are Fevers and Colds. The putrid fever makes great ravages. Among the *nova cohors febrilium* which have visited the earth, the ague was till of late a stranger here. The *Glacach*, or, as it is sometimes called, the Macdonalds disorder, is not uncommon. The afflicted finds a tightness and fulness in his chest, as is frequent in the beginning of consumptions. A family of the name of Macdonald, an hereditary race of *Machaons*, pretend to the cure by *glacach*, or *handing* of the part affected, in the same manner as the Irish Mr. Greatrack, in the last century, cured by *froking*. The Macdonalds touch the part, and mutter certain charms; but to their credit, never accept a fee on any entreaty.

"Common colds are cured by *Brochan*, or water gruel, sweetened with honey; or by a dose of butter and honey melted in spirits, and administered as hot as possible.

"As I am on this subject, I shall in this place continue the list of natural remedies, which were found efficacious before they began to

"Fee the doctor for his nauseous draught.

"Adult persons freed themselves from colds in the dead of winter by plunging into the river: immediately going to bed under a load of cloaths, and sweating away their complaint.

"Warm cow's milk in the morning, or two parts milk and one of water, a little treacle and vinegar made into whey, and drank warm, freed the Highlander from an inveterate cough.

"The chincough was cured by a decoction of apples, and of the mountain ash, sweetened with brown sugar.

"Consumptions, and all disorders of the liver, found a simple remedy in drinking of buttermilk.

"Stale urine and bran, made very hot, and applied to the part, freed the rheumatic from his excruciating pains.

"Fluxes were cured by the use of meadow sweet, or jelly of bilberries, [whortles] or a poultice of flour and suet, or new churned butter; or strong cream and fresh suet boiled, and drank plentifully morning and evening.

"Formerly the wild carrot boiled, at present the garden carrot, proved a relief in cancerous or ulcerous cases. Even the faculty admit the salutary effect of the carrot poultice in sweetening the implacable toror of the cancer, a property till lately neglected or unknown. How reasonable would it be therefore, to make trial of these other remedies, founded, in all probability, on rational observation and judicious attention to nature.

"Persons affected with the *scrophula* imagined they found benefit by exposing the part every day to a stream of cold water.

"Flowers of daisies, and narrow and broad-leaved plantane, were thought to be remedies for the *ophthalia*.

"Scabious root, or the bark of ash-tree burnt, was administered for the tooth-ach.

"The water *ranunculus* is used instead of *cantharides* to raise blisters.

"But among the useful plants, the *corr* or *cormeille* must not be omitted, whose roots dried are the support of the Highlanders in long journeys, amidst the barren hills destitute of the supports of life; and a small quantity, like the alimentary powders, will for a long time repel the attacks of hunger. Infused in liquor it is an agreeable beverage, and, like the

Nepenthe
• *Orebus tuberosus*, wood pease. Hudf. Fl. Ang. 374.

Nepenthe of the Greeks, exhilarates the mind. From the similitude of sound in the name, it seems to be the same with *Chara*, the root discovered by the soldiers of *Cæsar* at the siege of *Dyrachium*,† which steeped in milk was such a relief to the famished army. Or we may reasonably believe it to have been the *Caledonian* food described by *Dio*,‡ of which the quantity of a bean would prevent both hunger and thirst: and this, says the historian, they have ready for all occasions.

For burns, they boil cream till it becomes oil, and with it anoint the part.

“The itch declines in proportion as cleanliness gains ground. It may happen that that disorder may be sought in the purlicus of *St. Giles’s*, and the other seats of filth, poverty, and debauchery in our great towns.”

† *Cæsar*, de Bell. Civil. lib. III.

‡ In vita *Severis*.

ARTICLE XII.

Directions for chusing Spectacles, with curious Remarks.

MR. SYLVAN,

SIR,

I Should be glad to know how or why it can be said that spectacles preserve the eyes, when it is well known that if people once take to use them they can never after see to read or work without them; and also, which is the best kind of spectacle glass, that made from flints, or pebbles? Your answer to these questions, which are not the least important, will oblige numbers, as well as

Your constant purchaser,

R. BROWNE.

ANSWER.

Neither flints nor pebbles enter the composition of glass. It is made of sand, pearl ashes, and red lead; these substances are fluxed with salt-petre; and a little arsenick is added to make the white enamel.

The reason why persons who have used themselves to spectacles cannot leave them off is owing to their injudicious choice of those that magnify too much; they prefer these because every thing seems plain; and when they have accustomed themselves to see objects magnified, we need not wonder at their not being able to discern minute ones without the aid of their glasses.

Q.

The

The common spectacles are manufactured by the Jews, who pay little regard to any thing but their own interest, which they cannot easily separate from extortion and imposition. Nothing is more common than to have the glasses of the cheaper sort of spectacles unequally ground, and consequently they must have unequal *foci*, which may easily be discovered by holding the spectacles erect when the sun shines, and observing the *foci* upon the wall, or a plain board.

The best rule we think to be observed in the choice of spectacles for a person when he first finds it necessary to use them, is to chuse a pair that magnify but a very small matter, and with which he can see a little, and but a little better with them than he can without them; these will refresh his eyes and prevent their aching; and he will probably find, if he uses them only when he finds it necessary, that, after some time he may leave them off for a while, and then be obliged to wear them again. As old age advances, this rule for chusing spectacles should be again strictly adhered to when it becomes necessary to exchange the old ones for others, viz. to chuse a pair which magnify but a very little more than those that are to be left off.

The glasses should be of the best metal (as it is called by the glass makers) perfectly transparent, and entirely free from all kinds of flaws, waves, or streaks; they should likewise be ground perfectly true, and of equal *foci*. Considering that the sight is so precious, and that in this respect it is so easily injured, it seems unaccountably strange that, for the sake of saving a few shillings, people will buy such intolerable things as are hawked about by the Jew pedlars.

We have seen some glasses stained green with a view to be more refreshing to the eyes, for that colour is the most so of any, but we are not convinced that any beneficial effect can be produced from such an application; on the contrary, we think that the glass cannot be too clear, for certainly more rays of light will pass through a transparent medium than through a coloured one; and from these premises no person will be at a loss to draw a just conclusion.

ARTICLE XIII.

To destroy the Poppy, or Red Weed.

SIR,

MOST farmers know what a troublesome, pernicious weed the red poppy is when it prevails pretty much in corn, but they do not know quite so well how to destroy it; this
in

in our part of the kingdom, when the poppy is prevalent, is done by sowing pease in broadcast, which rarely fails to destroy it, or at least to keep it down.

Lincolnshire.

D. J.

[Old Ellis, who was a very good practical farmer, says, that if the poppies are pulled up just before they bloom they will be of great service to sows when they have young pigs, by increasing their milk; and adds, that it is of equal service to tame rabbits, which will thrive very fast with this food provided they have it fresh every day.]

ARTICLE XIV.

On the Benefit of keeping Tegn in Coppices during the Winter.

SIR,

SHEEP do so much injury to coppices that they are not suffered on any account to feed in them, though there is often plenty of grass which would be serviceable to a flock. But then Tegn [lambs which have just left the ewes] may with safety be wintered in a coppice, for they will find a sufficient pasturage, and will not crop the wood; and lying warm will thrive faster than they do in the open field, where often there is scarcely a blade of grass to be picked up. This is now much practised in many parts about us, but we are careful to take them out in the spring, just before the young shoots appear, for they would then crop them.

A SUSSEX FARMER.

[This is indeed rather new, and we therefore recommend it to the notice of such gentlemen, &c. who have large coppices, but are justly afraid of their being spoiled. It must be very beneficial to farmers who have large ewe flocks, as wintering the Tegn may be estimated from eighteen-pence a head to half-a-crown.]

ARTICLE XV.

Further Remarks on Deep Ploughing.

MR. SYLVAN,

I Find that I have not removed every objection against shallow ploughing; I have been encountered by some Farmers, who are afraid to plow deeper than usual, though the under stratum of the earth does not seem bad, nor to differ from the surface; but they say that this fresh earth is so raw and hungry,

that when they have plowed up a little, their crops have not been so luxuriant as before. I shall not deny the fact, but I object to the application. If earth that never saw the sun was to be ploughed up, and wheat immediately sown, we all know pretty well that a poor crop would be expected; but when this soil has been often plowed and properly meliorated by good husbandry, it will produce very different effects.

So if a Farmer plows deeper than usual and immediately sows his grain, he must expect that his crop will fail in part; he ought to know, and to *consider* as well as know, that raw, fresh, untilled earth often requires a good winter's fallow to meliorate and sweeten it, and even this sometimes will hardly be sufficient.

COLUMELLA.

ARTICLE XVI.

Dissertation on the different Kinds of Manure.

Mr. SYLVAN,

IF the following cursory remarks on the different kinds of manure are adapted to the *Farmer's Magazine*, you are welcome to insert them. So much indeed has already been written about manures, and their different operations and effects, that perhaps some will think little or nothing new can be expected. It is, I think, an inexhaustible subject; and as I have sometimes a few leisure moments, I then gladly take a pen to amuse myself; whether I have thrown any new light upon this beaten subject, or not, your readers (if they have had experience) will best determine. I am however of opinion, that these remarks are not all *common place* ones; though I have principally confined myself to the more obvious appearances and effects without entering into the controversy about the *pabulum* of plants.

COLUMELLA.

MANURES are ranged in different classes by different writers; I always divide them into two classes only, viz. manures that are temporary, or forcing, such as dung, ashes, foot, &c. which readily dissolve and give up their virtues to the land on which they are laid; and manures that are permanent, such as clay, marle, chalk, &c.

Those manures which I call temporary do not change the nature of the soil, but fertilize it only, and thereby enable it to produce a course of crops; after which the land is left nearly

nearly in the same condition as it was before the manure was applied: equally disposed to receive it again, and again to produce fresh crops; but what before was clay still continues stiff and untractable, and the sandy soils equally hot and light.

Clay, marl, and chalk, essentially change the nature of the soil, and may therefore with propriety be stiled permanent manures.

Of the temporary manures, dung claims the precedence. There are various sorts, and each more particularly adopted to particular soils; thus horse-dung best suits cold soils, and cow-dung the loose burning ones: sheep-dung suits most soils; but few farmers have it in their power thus to adapt manure to the soil. Horses which eat large quantities of corn make much warmer dung than those that live upon poor hay, or straw; hence the dung from large inns is of a superior quality: but then as inn-keepers or horse-keepers are not always over-nice in chusing their hay or corn, it is sometimes apt to produce weeds; for horses eating greedily swallow small seeds, which will afterwards vegetate.

Great care is required in preserving dung from being too much dried and wasted by the sun, or washed away by the rains. It is now become general to mix it with fresh earth, or with the dirt from turnpike roads; an excellent method; and if a little lime be added, it will prevent insects from preying too much upon the dung, of which they are very fond. Some prefer short rotten dung; others think it best in a compost, and then kept till it is fine like earth; but I have seen considerable tracts of land where the farmers are obliged to use long litter dung, experience having taught them that the grub, which is sometimes so destructive to a wheat crop, is fondest of short dung; and that either it does not like the litter, or cannot so easily find the roots of the wheat through it; which ever may be the case, I can speak to the fact, and well know that the crops (when the land has been manured for wheat) are much the best on those lands which abound with these grubs when the litter dung is used; and in short, it is well known that short rotten dung is never free from worms.

Hog's-dung was formerly rejected from the notion of its producing weeds, but it is now found to be perhaps the richest and fattest of any we have. It has one exceeding good quality not noticed by any writer: it never fails (the fly aside) to produce a good crop of turnips; a little of it suffices.

Fowls, and pigeons, living principally upon grain, their dung makes a very warm manure, but cannot well be obtained

in large quantities. They have been much recommended in dseeps, but that notion is now exploded. When dung is laid upon land, or sheep are folded upon it, the sooner it is ploughed in the better, if the weather be warm; for these manures waste greatly in the sun.

[This to be continued in our next.]

ARTICLE XVII.

On shoeing Horses that are liable to trip.

MR. AGRICOLA SYLVAN.

SIR,

I Was much pleased with your account of Mills's treatise on cattle in your review of books on agriculture, and especially that part about shoeing horses. How could the author [the compiler rather] of that book think that a shoe no broader in the web than the hoof is thick would keep the foal, or frog, from being bruised by bones in rough roads, but I suppose he knows very little except what he learns from books.

I had once a little nag, that was one of the best horses in the kingdom of his size; but soon after I bought him I found that he tripped sometimes by going a little near the ground, as we say. I considered the matter very fully, and determined to have him shod as short at the toe as possible without laming him; and to have the shoes made thin and light; I next had the hoof pared away at the toe, and never afterwards suffered it to grow too long, and by this simple method of shoeing him he always went clean and safe.

As I have been pretty much used to horses, I shall add another circumstance that ought to be more attended to than it is, which is, properly pointing the nails; for this work is commonly left to the prentice, or some ordinary journeyman, who hurries it over, and often while the shoe is setting on, by which hasty piece of business more horses are pricked than by any other means; for if the nails are not well pointed it is impossible they can be drove with safety. They ought to be both well made and well pointed, or they will sometimes split, and then the horse is lamed, perhaps for ever. A trifling fee to the journeyman will be of great service, more than people are aware of; let them consider how soon and how easily a horse worth twenty pounds may be spoiled.

I think that caulking horses is a bad custom, (except in hard frosts) unless a horse has been used to have his shoes turned up.

tip. It is not natural, and horses will go as well without it as with it, as I know from experience. How well will horses frequently go upon the smoothest stones when they have been used to them, while others that have not been accustomed to go upon pavements can hardly keep at all upon their legs. But when horses have been accustomed to caulks they will hardly ever be able to go without them, especially in softish down-hill roads, for they will then slip almost every step.

W-shire.

An OLD FARMER.

ARTICLE XVIII

On the ill Consequences of clipping Holly and Yew Hedges in the Winter.

MR. Boucher in his Treatise on Forest Trees gives the following excellent rule to be observed in clipping holly and yew hedges; for which the best season is now at hand.

"I must not here omit (says he) taking notice of a very wrong, though prevailing custom, which is, clipping holly hedges the beginning of winter. This has various ill effects, at it not only robs them of their beauty and verdure in that gloomy season, by cutting away the fresh tender shoots, and mangling the leaves, but likewise exposes the naked hearts of the plants to all the rigour of the storms, unprotected as they are of their natural clothing. Let this, therefore, never be performed later in the season than July, after which the young shoots will again shelter the inward parts before the severe weather comes on. This ought to be more particularly attended to in the yew, which will suffer more by that practice, inasmuch that I have known in severe winters whole hedges of them become quite brown, and so weakened, that nothing but cutting them close to the trunk will again restore their thickness and verdure."

[We have a caution to give gardeners, &c. employed in clipping hedges, or bushes, which is, that they take care to keep the edges of their shears very keen, lest they bruise the young shoots; we have known young hedges much injured by them; on which account we recommend a very sharp hook fastened to a long handle, and to be used with a swift stroke, for this cuts off the young shoots and branches without bruising them.]

On Red posts being made with Yew-tree Wood to prevent their being infested with Bugs.

MR. Boucher gives us likewise the following interesting account of the Yew tree. The posts of it set in moist ground, will continue sound for ages, and for axle-trees no wood is so strong and lasting, to which I shall only add one very material quality more, tho' not related by any writer so far as I know, and which is, that the wooden parts of a bed made of yew, will most certainly not be approached by bugs. This is a truth confirmed to me by the experience of ones I had cut down and used myself in that way.

ARTICLE XX.
Curious Account of the Horses in distant Countries.

From Heron's Natural History.
IN our first number (page 20) we promised this account; and as horses are rarely imported from some of the countries mentioned by M. Buffon, and therefore but little known, it cannot fail of being highly entertaining to all lovers of that useful and noble animal.
All the islands of the Archipelago produce very good horses. Those of the Isle of Crete were highly renowned among the ancients for agility and swiftness; but they are at present very little used in that country itself, on account of the roughness of the ground, and the mountains, and precipices with which it almost every where abounds: the fine horses of these islands, and even those of Barbary, are of Arabian extraction. The native horses of the kingdom of Morocco are much smaller than those of Arabia, but very light and vigorous. Dr. Shaw tells us, in his travels, that Egyptian and Tingitanian Huds are now superior to all those of the neighbouring countries; whereas about a century ago, as good horses were found in every other part of Barbary. The excellence of these Barbarians consists, he says, in never making a false step, and in remaining still when the rider alights or drops the bridle: they have a long pace, and gallop with rapidity, but are not suffered either to trot or to amble, the inhabitants of the country accounting those goings awkward, and even mean.

mean. He adds, that the Egyptian horses are superior to all others for size and beauty: but these, and indeed most of the Barbary horses, owe their origin to the Arabian couriers, which are incontestably the most beautiful and stately animals in the world.

According to Marmol, or rather according to Leo Africanus, for Marmol has here copied him almost word for word, the Arabian horses are descended from the wild horses of the deserts of Arabia, of which there were studs in very antient times; whereby they have been multiplied to such a degree, that all Asia and Africa are full of them. They are so very swift, that some of them will overtake the ostrich. The people of Arabia Deserta, and those of Lybia, breed a great number of these horses for hunting, but never use them either for travelling or for war. They keep them in pastures when there is grass; and when there is not, they feed them with dates and camel's milk, which renders them vigorous, swift, and thin of flesh. They lay traps for the wild horses, which they eat, and say that the flesh of the young ones is very palatable: these wild horses are smaller than the others, and commonly of an ash colour; though some are white, with the mane and tail very bristly. Other travellers have given us some curious accounts relative to the Arabian horses, from which I shall here extract only the principal parts.

No Arabian, however poor and indigent, is without horses. They generally ride mares; experience having taught them that they endure fatigue, hunger, and thirst, better than horses: they are also less vicious, more tractable, and not so much given to neighing as horses. They accustom them so much to be together, that great numbers of them are frequently left to themselves, sometimes for whole days, without their kicking one another, or doing themselves the least hurt. The Turks, on the contrary, are not fond of mares; and the Arabians sell them the horses which they do not intend to keep for stallions. It is a very long time since the Arabians began to preserve the breeds of their horses with great care; to which end they keep exact accounts of their generations, alliances, and whole genealogy. They distinguish their breeds by different names, and divide them into three classes: the first is, that of the noble horses descended from a pure and antient breed on both sides; the second is, where the horse is of an antient breed, but not the mare; and the third is that of common horses. These last sell for little; but those of the first class, and even of the second, among which are some not

at all inferior to those of the first, bear an excessively high price. The mares of the first, or noble class, are never covered but by stallions of the same rank. They know, by long experience, all the breeds of their own horses, and likewise those of their neighbours; even to the name, surname, coat, marks, &c. of each. When they have not noble stallions of their own to cover their mares, they hire them of their neighbours, and the covering is performed in the presence of witnesses, who sign and seal an attestation of it, before the Emir's secretary, or some other person in office: in this certificate they mention the name of the horse and mare, and enumerate their whole pedigree. Witnesses are also called at the foaling of the mare, and these subscribe another certificate, containing a description of the young colt, with the day of its being foaled. The value of the horse depends upon these certificates, which are delivered to the purchaser. No mares of this first class are sold under five hundred crowns (upwards of sixty guineas) and many sell for a thousand, fifteen hundred, and even two thousand crowns.

As the Arabians have only a tent for their dwelling, that tent serves them also for a stable. The mare, the foal, the husband, the wife, and children, lie all intermixed in a confused manner; the little children often on the body or the neck of the mare or foal, without experiencing the least inconvenience therefrom; for these creatures remain still and quiet, as if afraid of hurting them; and so accustomed are these mares to this familiarity, that they will bear all manner of play. The Arabians do not beat them, they treat them gently, talk and discourse with them, take a great deal of care of them; they let them always go their own pace, except in cases of necessity. But then, when once they feel their flanks tickled with the stirrup, they instantly set off, and fly with incredible velocity, leaping like hinds over hedges and ditches; and if the rider happens to fall, they are so well trained, that they stop instantly, even in the midst of the most rapid gallop.

All the horses of the Arabians are of a middle size, gently shaped, and rather lean than fat. They dress them very regularly every morning and evening, with so much care, as not to leave the least filth upon their skin: they wash their legs, together with their manes and tails, which they leave at their full length, and seldom comb for fear of breaking the hairs; they give them nothing to eat in the course of the day, but only make them drink two or three times, and at sun-set they tie to their head a bag with about half a bushel of well-cleansed

cleansed barley: thus these horses eat only in the night, and the bag is not taken from them till the next morning, when it is found empty. In the month of March, when there is a sufficiency of herbage, they are turned out to grass. At this season also the mares are covered; and it is the constant practice of the Arabians to throw cold water upon the croup of the mare immediately after the action. When the spring season is over, the horses are taken from the pasture; and during all the rest of the year they have neither grass nor hay, and even straw but very rarely; barley is their only food. The manes of the foals are cut at the age of a year, or eighteen months, that they may grow the closer and longer: they are backed at the age of two years, or two years and a half at farthest; but before that time, neither bridle nor saddle is put upon them. Every day, from morning to evening, all the horses of the Arabians stand bridled and saddled at the door of the tent.

The breed of these horses has extended itself in Barbary, among the Moors, and has even reached the negroes who inhabit the banks of the rivers Gambia and Senegal, where the lords of the country have some exceedingly beautiful. Instead of barley or oats, they are fed with maize, pounded or reduced to meal, and mixed with milk when it is intended to fatten them: but even in this hot climate they are permitted to drink but seldom. On another side, the Arabian horses have stocked Egypt, Turkey, and perhaps Persia, where there were formerly very considerable studs; one of which Marco Paulo speaks of, as containing ten thousand white mares; to which he adds, that there were in the province of Balascia great numbers of large and swift horses, whose hoofs were so hard that it was needless to shoe them.

All the horses of the Levant, like those of Persia and Arabia, have a very hard hoof; yet they are constantly shod; but with thin and light shoes, which may be nailed on in every part. In Turkey, Persia, and Arabia, the manner of tending and feeding horses is the same, and in each of those countries their dung is made to serve for litter, after having been dried in the sun to take off its smell; when it is pulverized, and spread about four or five inches thick on the floor of the stable or tent. This litter lasts a long time; for when it becomes again offensive, it is dried a second time in the sun, which entirely takes away its bad smell.

[To be concluded in our next.]

POETRY.

P O E T R Y.

THE FARMER AND WHEAT-EAR:

A Farmer view'd, 'twas in July,
His belov'd with this folioquy:
"My corn's full ripe, and shall go down
To-morrow; (here he scratch'd his
brow);
"Look! I can stand as upright stand;
All bow to meet the reaper's hand:
O! wheat-ear, taller than the rest,
Hear! and the farmer thus address'd;
Be first in stand as near upright,
As possible, I could not quite
"I meet the reaper's hand, not I,
Like man's, my forehead meets the sky;
So good-nave send no reaper here,
But let me stand quite round the year."
"You shall," the farmer cry'd, and there
He set his mark, the reapers spare:
It stood, it bow'd his brethren fall;
Before the sickle, one and all;
It stood, but not as preconceiv'd,
With joy, of all its friends bereav'd;
It stood alone, and lonely state;
Must needs a thousand fears create;
And more than fears: it felt, some days,
The sun's intolerable blaze;
From stalk and grain the moisture fled;
And languishing, it hung the head;
Unprop'd by others of its kind,
Some days it suffer'd by the wind;
Beside, it suffer'd twenty days,
And suffer'd more than twenty days,
One day, as by the farmer went,
Thus warmly begg'd the peasant:
"I pray request, (how wrong)
You spar'd me, but I've stood too long;
I've borne till I can bear no more;
Convey me to your threshing floor."
The farmer view'd, pick'd out a corn,
And thus reply'd with taunting scorn:
"To threshing-floor convey thee, no!
Thou'rt neither fit to fell nor sow;
The year's not out by ensy a day
With that he whistling went his way.
That night the wheat-ear fall'n to
ground,
A hungry crow next morning found;
As his long breakfast much repin'd:
The chaff, was scatter'd by the wind;
Such this ear's fate, could work beside;
From theirs, the sickle reap'd, how wide!
Of these enow to cross the fields;
One sixty grains, one twenty yield;
And every grain, the following year,
Produce as much as parent ear.

The wheat-ear was a type of man,
He long'd to stretch his scanty span;
Disease arrives, when death is best,
"O! let me live!" his request:
He lives, for what, ten years he knows;
He lives to sink from bliss to woe;
Lives, till e'en life becomes a pain,
He can't get rid of, can't sustain;
He lives, a heavier task than all,
To worthlessness, from worth, to fall;
He drops, the fell destroyer's prey,
Who might have liv'd another day;
Live and a gayer season found;
Replanted on celestial ground;
Me, with, or e'en without, my leave,
When ripe for Heaven, may I leave

THE LONGEST DAY: A Poem.

THE Summer Sun, with ray supreme,
And splendora all his own,
Pours down an unrelenting beam
From his imperial throne;
Of new-mown hay the vapour crops
In fragrant fragrance float;
On herbs and flowers the dew drops
Enamel every field;
The Rose's aromatic balm,
Borne on the western gale,
Adds sweetness to the morning calm,
Enriching every vale;
The gardens now, in greatest pride,
Exult in all their Nore;
Each toun's smallest dell every side,
And hush a universal hush;
Then let each grateful thought improve
Its force upon the mind;
Let all our lives be thankfulness;
For God is ever kind,
And let one moral thought intrude;
All Summer's Day was well;
He need not dread, whose life is good;
The Winter of the Soul.

ODE for his Majesty's Birth-Day.

Western gales, whose genial
breath
Untwinds the glebe, till all beneath
One verdant livery wears;
You banish the sultry heats of noon,
Add softness to the setting sun,
And dry the morning's tears.

This

This is your season, lovely gales,
 When Zephyr blows your power to swell;
 And our distant breasts shall own
 The joys which flow from you alone.
 Whir, therefore, in you dubious sky,
 With out-spread wing, and eager eye,
 On distant scenes intent;
 "Ours is the season to the air,"
 Why do you shrink? Hope and Fear
 Suspend some great event?

Can Britain fail?—The thought were vain!
 The powerful Empress of the main
 But strives to smoothe th' unruly flood,
 And dreads a conquest stain'd with blood.

While yet, ye winds, your breezy balm,
 Thro' nature spreads a general calm;
 While yet a peace full discord knows;
 Catch the soft moments of repose,
 Your genuine powers exert;
 To ply melt the obdurate mind,
 Teach every bosom to be kind,
 And humanize the heart?

Propitious gales, O wing your way!
 And whilst we hail the rightful sway
 Whence temper'd freedom springs,
 The bliss we feel to future times
 Extend, and from your native climes
 Bring peace upon your wings.

THE ELBOW CHAIR.

LOLLING at ease and void of care,
 Whom rather should I raise to care,
 Than you, my much-lov'd Elbow-chair,
 Who thus support my languid frame?
 Who oft the House's sons besfriend,
 Lull'd in your soft inspiring lap;
 Whether poetic dreams you send,
 Or th' afternoon's indulgent nap.

When "Hercule" took that airy dance,
 Transform'd by Fancy's powerful
 charms;
 Wak'd from his dear Pindaric trance,
 He felt, I ween, thy circling arms.
 Beyond Creation's utmost bound
 "While Milton's genius took its flight;
 The Bard in his arm-chair was found,
 Contented—e'en with loss of sight.

* Book II. Ode 20.

† He is said to have generally studied
 with one leg over an arm-chair.

When thus embosom'd in state he's seen,
 How awful looks the rural May!'
 When blest by thee, ev'n little men
 Assume a grand, important air.
 The place of honour, which mankind
 To gain so ardently aspire,
 To Elbow-chairs the Gods assign;
 And wisely plac'd them near the din.

O more than mortals happy he,
 Who in the favour's nightly seat
 Prevents his ling'ring company,
 And first obtains the feat of rest.
 When now a gen'ral gaze goes round,
 And vapours cloud each sleepy head,
 Fresh for another flask he's found,
 Not wishes for his downy bed.

When York and Lancaster long fought,
 And England bled in Civil War;
 What was their glorious aim? No doubt
 'Twas that bewitching "Elbow-chair."

The roving youth, now foe to rest,
 Whose limbs a fatal vigour warms,
 Shall languish soon, and fly more blest
 To your's, than Celia's spreading arms.

Tho' blooming Chloe yet despise
 And haughty Susan thy kind support,
 By years made humble and more wise,
 She in her turn thy aid shall court.

Whether in simple check so neat,
 Or velvet clad, or leather red,
 Thou roaming victor's late retreat;
 Where e'en Ambition rests her head!
 Still let me love my Elbow-chair,
 By age more fond, more constant
 grown;
 Within thy arms forget each care,
 Nor envy George the British throne.

* Coronation Chair brought from Scots
 in Scotland.

EPIGRAM from LUCILIUS.

AS Pedro stalk'd around his house,
 The jealous Miser spied a mouse;
 "How now," cries he, "what do'st
 thou here?"
 "Sir," says the Mouse, "dismiss your
 fear:
 We come not with the hopes of food
 "Amidst this dreary solitude;
 Nor care how well your larder's
 stor'd—
 "We came to lodge—and not to board."

Account

Account of the new General Turnpike-Road Act.

IN the General Turnpike-road Act passed in the 13th year of his present Majesty's reign, there were two clauses respecting waggons and carts travelling with nails that rise above the tire or streak of the wheels. One of the clauses took away the exemptions from carriages with six-inch wheels, unless the fellys and the tire upon the fellys lay quite flat. The other clause enacted, that from and after the 20th day of September, 1776, the tire of all waggons, wains, and carts, should be flat, and the nails sunk in the tire, under the penalties of 40s. for the owner, and 20s. for the driver.

By the present very short act, both these clauses are repealed.

Average PRICES of CORN, from June 10 to June 15.

By the Standard Winchester Bushel of Eight Gallons.

Wheat Rye Barley Oats Beans					COUNTIES upon the COAST.				
s. d. s. d. s. d. s. d. s. d.	Essex	4	4	1	10	3	3	3	3
London	4	7	3	0	2	4	2	0	3
COUNTIES INLAND.									
Middlesex	4	0	3	0	3	4	3	2	
Surry	4	0	3	0	3	4	3	2	
Hertford	4	0	3	0	3	4	3	2	
Bedford	4	0	3	0	3	4	3	2	
Cambridge	4	2	1	1	2	9	3	7	
Huntingdon	4	0	3	0	3	4	3	2	
Northampton	4	0	3	0	3	4	3	2	
Bedford	4	0	3	0	3	4	3	2	
Leicester	4	0	3	0	3	4	3	2	
Nottingham	4	0	3	0	3	4	3	2	
Derby	4	0	3	0	3	4	3	2	
Stafford	4	0	3	0	3	4	3	2	
Salop	4	0	3	0	3	4	3	2	
Worcester	4	0	3	0	3	4	3	2	
Warwick	4	0	3	0	3	4	3	2	
Gloucester	4	0	3	0	3	4	3	2	
Wilt	4	0	3	0	3	4	3	2	
Berk	4	0	3	0	3	4	3	2	
Oxford	4	0	3	0	3	4	3	2	
Bucks	4	0	3	0	3	4	3	2	
					From June 3 to June 3, 1776.				
					WALES.				
					No. Wales				
					So. Wales				
					Part of SCOTLAND.				
					Wheat Rye Barley Oats Beans Big				
					4 0 1 1 2 1 3 7 1 4 3 1 X 9				

CORRESPONDENCE.

THE Review of Books on Agriculture is unavoidably postponed till next month, when we propose to give a copious account.

We acknowledge the receipt of a well-written letter from *Newcastle upon Tyne*, signed PHILCO MECHANICUS, and intend to oblige him in our next number, having procured a drawing of a very simple contrivance to raise water above its natural level, which shall be engraved immediately. We shall likewise oblige many others of our correspondents by inserting their favours in our next.

An account of the *Insolvent Debtors, Poor, and Deer Acts*, shall be inserted next month.

We have for *this month* given a whole sheet of the Dictionary; which contains a great variety of valuable articles, not to be found in any other Dictionary extant.

The Farmer's Magazine,

A N D

Useful FAMILY COMPANION:

NUMBER IV. (for July 1776,) Price 6d.

Embellished with two Copper-Plates; 1. A new-invented Method to raise Water above its Level; 2. The Double Plough, to be exchanged for that given in our last.

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To which is added, A GENERAL DICTIONARY of Husbandry, Planting, Gardening, and the Vegetable Part of the *Materia Medica*: Containing a great Variety of new and useful matter, with many original Articles.

By AGRICOLA SYLVAN, Gentleman.

Printed for W. GOLDSMITH, No. 24, in Pater-noster-Row;

And R. CRUTT WELL, in BATH;

And sold by every Bookfeller, Stationer, and News-Carrier, in the Kingdom.

The ASSIZE of BREAD, as set by the Lord-Mayor of London, Tuesday, July 16th.

	lb.	oz.	dr.	
The Penny Loaf, Wheaten,	11	9		
Household,	15	7		
Two-penny Loaf, Wheaten,	7	3		
Household,	14	4		
Three-penny Loaf, Wheaten,	2	12		
Household,	2	14	5	
<i>To weigh, To be sold for,</i>				
	lb.	oz.	dr.	s. d.
The Peck, 17	6	0		Wheaten, 2 0
				Household, 1 6
Half Peck, 8	11	0		Wheaten, 1 0
				Household, 0 9
Quartern, 4	5	8		Wheaten, 0 6
				Household, 0 4

PRICES of STOCKS.

Bank Stock, 137 $\frac{1}{2}$. India Stock, 159. South Sea, —. 3 per cent B. Red. 83 $\frac{1}{2}$. 3 per cent Conf. shut. 82 $\frac{1}{2}$ ex. div. 3 ditto, 1726. —. 3 $\frac{1}{2}$ per cent 1758. —. 4 per cent Conf. 87 $\frac{1}{2}$ a $\frac{1}{2}$. Old S. S. Ann. 81 $\frac{1}{2}$. New ditto, Ann. shut. 3 per cent. 1751. —. India Ann. 79. Long Ann. —. 25 $\frac{1}{2}$ ex. div. India Bonds, 32 pr. New Navy Bills, 2 $\frac{1}{2}$ dif. Omnium. —. Scrip. 83 $\frac{1}{2}$. Lottery Tickets, 111. 135.

Price of Hops in the Borough.

New Pockets, — 21. 00s. to 31. 10s.
New Bags, — 11. 18s. to 31. 3s.
Old Pockets, — 11. 6s. to 11. 12s.
Old Bags, — 11. 5s. to 11. 15s.

PRICE of CORN at MARK-LANE.

Monday, July 22.

Wheat, per quarter,	34s to 39s od.
Barley,	16s to 22s od.
Rye,	22s to 24s od.
Brown Malt,	25s to 27s od.
Pale ditto,	26s to 29s od.
Oats,	12s to 17s od.
Essex Beans,	23s to 26s 6d.
Tick,	24s to 27s od.
Boiling Pease,	35s to 38s od.
Hog ditto,	22s to 25s od.
Tares,	24s to 30s od.
Fine Flour, per Sack,	30s
Second ditto,	27s
Third ditto,	24s

Return of the Sale of Wheat at Bear-Key, on the above day.

156 Q. at 39s. od.	153 Q. at 37s. od.
150 do. at 38s. 9d.	20 do. at 36s. 6d.
180 do. at 38s. 6d.	18 do. at 36s. od.
490 do. at 38s. od.	11 do. at 34s. od.
332 do. at 37s. 6d.	

WHITECHAPEL.

Hay, 31. 13s. to 31. 16s. 7 Load.
Straw, 21. 00s. to 21. 6s. 5 Ton.

SMITHFIELD-MARKET.

Beef, per stone, 2s. 8d.
Veal, — 3s. od.
Mutton, — 3s. od.
Lamb, — 3s. od.

Average PRICES of CORN, from JULY 1 to JULY 6.

By the Standard Winchester Bushel of Eight Gallons.

Wheat Rye Barley Oats Beans

s. d. s. d. s. d. s. d. s. d.

London 4 4 | 3 0 | 2 3 | 2 1 | 3 2

COUNTIES INLAND.

Middlesex	4	9	3	0	2	4	3	2
Surry	4	6			2	5	3	2
Hertford	4	6	3	0	2	2	6	
Bedford	4	6	3	7	2	1	3	3
Cambridge	4	2	11	2	9	2	0	2
Huntingdon	4	5	3	0	2	0	3	1
Northampt.	5	0	2	10	2	6	0	5
Rutland	5	2		2	10	2	4	1
Leicester	4	11	3	10	2	7	2	10
Nottingham	4	9	3	9		2	1	8
Derby	5	2			1	9	4	0
Stafford	4	11	3	6		1	9	8
Salop	4	9	3	5	2	3	0	4
Hereford	4	2		2	1	1	10	
Worcester	4	11	3	12	0	2	1	5
Warwick	5	0			2	5	8	12
Gloucester	4	8			1	9	3	4
Wilt	4	2		2	2	0	3	6
Berks	4	4		2	2	0	3	0
Oxford	4	8		2	3	2	1	1
Bucks	4	8		2	7	2	2	0

COUNTIES upon the COAST.

Essex	4	13	0	2	10	2	3	2
Suffolk	4	2	2	10	2	4	2	9
Norfolk	4	2	3	11	2	1	1	11
Lincoln	4	7	3	8		5	2	7
York	4	8	3	3	2	7	1	9
Durham	4	8	3	9		1	10	7
Northumb.	4	6	3	4	2	5	1	2
Cumberland	4	10	3	2		5	1	
Westmorel.	5	5	3	6	3	0	1	4
Lancashire	5	6		3	2	1	10	9
Cheshire	5	2		2	13	1	11	
Monmouth	5	1		2	6	1	11	
Somerset	4	9		2	6	1	11	10
Devon	5	5		2	8	1	7	
Cornwall	5	6		2	7	1	7	
Dorset	4	8		2	2	2	3	6
Hampshire	4	3		2	7	2	2	9
Suffex	4	1		2	6	2	3	1
Kent	4	6		2	10	2	4	0

From June 24, to June 29, 1776.

WALLES.

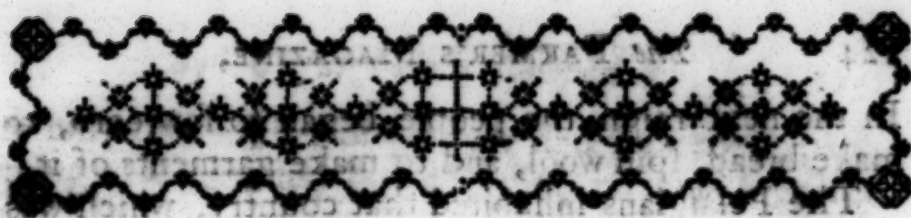
No. Wales 5 2 | 4 2 | 2 6 | 1 3 | 3 9

So. Wales 5 2 | 3 9 | 2 11 | 1 5 | 2 11

Part of SCOTLAND.

Wheat Rye Barley Oats Beans Big

4 0 | — | 2 2 | 1 10 | 2 2 | —



T H E

FARMER'S MAGAZINE.

A DISSERTATION on the Progress and present State of AGRICULTURE; with a concise Account of the best English Writers on the subject. [Continued.]

GREECE is supposed to have been planted by Javan, the son of Japhet, and from him called Ionia. In its infant state, it appears to have been one continued uncultivated forest inhabited by ignorant and wild savages, who lived on every fruit, herb, or root, that came in their way, and sheltered themselves from the inclemency of the weather in dens and caves, in clefts and hollow trenches; they were entirely ignorant of agriculture, and knew no other law than force.

Pelasgus, about 800 years after the flood, first taught them to cultivate the oak, and to feed on acorns as a more wholesome food, for which divine honours were paid him. They were afterwards called Pelasgi, and Pelasgians.

In the primitive times the oak alone was by some thought almost sufficient for preserving of man's life; its acorns being the principal food, and the honey which was commonly found there, presented the means of making a very pleasant and agreeable liquor.

Lycaon's sons (who were pretty numerous) built each a city, and called it by his own name, and peopled it with the straggling inhabitants of the country.

In the next reign the people began to sow corn, to make bread, spin wool, and to make garments of it.

The Pelasgians inhabited that country, which was afterwards called Arcadia, so much famed for its pasturage; and though they at first fed on acorns, nuts, and beech masts, they afterwards applied themselves to feed cattle, being invited thereto by the luxuriance of their soil. By degrees we find their savage wildness and martial weapons exchanged for the charming pipes and rural felicity of the Arcadian shepherds and shepherdesses. History perhaps affords but few such instances of the pleasing as well as good effects of civilization and industry.

The Greeks seem to have been first civilized by the Egyptian and Phœnician colonies that arrived in their country. They knew nothing of writing, arithmetic, navigation, or commerce, till the arrival of Cadmus. For a long time after they neither cared to cultivate friendship with foreigners, nor to improve themselves and their estates by commerce with them, for all strangers were then accounted enemies. To live upon the plunder of others was thought an honourable way of subsisting, and they placed a sort of glory in overcoming and spoiling their neighbours. It was not safe to travel without a strong guard, for the land was exceedingly infested with robbers, and the sea with pirates.

This sending forth of colonies was very frequent in the first ages of the world, and several instances there are of it in later times, especially among the Gauls and Scythians, who often left their native country in vast bodies, and like general inundations overturned all before them.

The usual attendants of a long and uninterrupted peace are riches and plenty; but in earlier ages, when men lived upon the products of their own soil, and had not found out the way of supplying their wants by traffic, the case was quite the reverse, and peace was

was only the mother of poverty and scarceness, producing new mouths, but affording no new supplies to satisfy them.

It is pretty generally agreed that Cecrops, who was an Egyptian, collected together the poor peasants who lay dispersed in Attica, and having established one form of government, took upon himself the title of King.

Most nations at the first were governed by kings, who were usually persons of great worth and renown, and promoted to that dignity for their courage, prudence, and other virtues, by the general consent and election of the people. Kings then chose to be obeyed from a principle of love and esteem of their virtues, and fitness to govern, rather than from a slavish fear of their power, extorted by the force of their arms. They affected no uncontrollable dominion or absolute sway; they expected no bended knees, no prostrate faces, but would converse familiarly with the meanest of their subjects; chusing to win by kindness, rather than awe by severity. In return, their people yielded them obedience out of willingness rather than necessity, out of advice rather than by compulsion.

When Cecrops found his country well stocked with inhabitants, and that the soil was in its own nature unfruitful, and the people unskilled in agriculture, he soon perceived that such multitudes could not long subsist without importing corn from other countries; he therefore taught them the art of navigation, by which means they were supplied with corn from Sicily and Africa.

When Theseus was advanced to the regal sceptre, he formed the vast and wonderful design of gathering

ing
The king of the Aetians, taught the use of corn to the rest of the Greeks; they also taught them the art of wrestling, whereby men were enabled to throw down those who were far superior to them in strength.

ing together all the inhabitants of Attica into one town; for they were still dispersed in villages, and canton'd up and down the country. This he effected, partly by promises of a commonwealth, and partly by persuasions; for his power was now become very formidable. Having dissolved all the courts of justice, the corporations, &c. he built one common Council-hall, which served both for the courts of judicature, and the feasts and entertainments of the magistrates. Out of the old and new city he made one which he called Athens, which ever after continued to be the most potent and principal city in all Greece.

Athens had three harbours for ships; one was called Piræus, where there was a celebrated mart, to which merchants resorted from almost every part of Greece; hence the proverbial saying, that "famine and emptiness do not come from Piræus." This harbour was reduced to a very few houses in the time of Strabo, who flourished under the Emperors Augustus and Tiberius; having been burnt by Sylla in the Mithridatic war.

Theseus then invited all strangers to come and enjoy equal privileges with the natives. He did not however suffer his state to be turned into anarchy and confusion by the promiscuous multitude that flowed in, but was the first that divided the commonwealth into three distinct ranks; that is, Noblemen, Husbandmen, and Artificers. The manner in which he settled the Athenian government continued till the death of Codrus, the seventeenth and last king; for in reverence to his memory the Athenians would never more have any governor assume the name or title of King.

The Athenians, who were the first that received any tincture of politeness, taught the use of corn to the rest of the Greeks; they also taught them the method of raising it. The Greeks soon perceived

that

that bread was more wholesome, and its taste more delicate, than acorns; and accordingly thanked the gods for such an unexpected and beneficial present. Barley being the first sort of corn which they used after the primitive diet of acorns, they offered more of this corn in sacrifice than any other.* After this, the Athenian kings, thinking it more glorious to govern a small state wisely than to aggrandize themselves by foreign conquests, withdrew their subjects from war, and employed them solely in cultivating the earth. By this constant application, agriculture was greatly improved, and soon after reduced into an art.

Hesiod was the first among the Greeks who wrote on this subject. He calls his poem, *Works and Days*. He was succeeded by Democritus of Abdera, Socraticus, Xenophon, Architas, Aristotle, Theophrastus, &c. from whom the art received considerable improvements.

Solon introduced several wise laws amongst the Athenians respecting lands, boundaries, land-marks, herds and flocks; but it would be foreign to our purpose to insert them, being more particularly calculated for the meridian of Athens.

The death of Epaminondas, the famous Theban general, proved fatal to the Athenians as well as to the Thebans; for now there being none whose virtues they could emulate, or whose power they could fear, they lorded it without a rival, and gave themselves over to idleness and luxury; they slighted the virtues of their ancestors; their hard and thrifty way of living they laughed at; the public revenues were expended

* It was customary at Athens, when they kept their marriage festivals, for a boy to bring in a bough loaded with acorns, and a plate covered with bread, proclaiming, "I have escaped the worse and found the better." At Rome, the *civic crown* was composed of oak leaves, because that tree afforded the most antient food.

expended in games or sports, or profusely lavished in sumptuous preparations for festivals; they took greater pleasure in going to the theatre, and hearing the foolish insipid jests of a comedian, than in the manly exercises and feats of war; nay, they were so besotted with their pleasures, that they made it capital for any man to propose the re-establishing their army, or converting the public revenues to its maintenance.

The Asiatic Greeks are said to have been the first who introduced the use of perfumes and garlands, sweetmeats and deserts, at banquets.

This degenerate disposition of the Athenians, and the rest of the Greeks, who were also drowned in the same security, gave opportunity and leisure to Philip to raise the Macedonians from a mean and obscure condition to the Empire of all Greece and Asia. This design was projected by Philip, but atchieved and completed by his own son Alexander the Great. We find afterwards from the account of St. Paul's preaching at the Areopagus, that the Athenians still continued to be idle and effeminate, as well as idolatrous.

[To be continued in our next.]

ARTICLE II.

On the great Benefit of double cropping Tillage Land, and raising two Crops in one Year.

AS the double cropping land has hitherto been practised but by few Farmers, notwithstanding its apparent great utility and benefit, we have judged it proper to throw out a few hints, founded on experience, which a judicious Farmer will readily improve.

In our remarks, offered in the course of this work, we have always endeavoured to refer our readers to objects and occurrences that are at once the most familiar and striking, from which rule we hope we shall never deviate. The present subject naturally inclines us to direct our readers to cast their eyes over a well-cultivated kitchen garden. We there see the different plants properly adapted to the soil, and to each other when they are intermixed; the ground is covered as much as possible, and no sooner is it cleared of one crop but it is immediately prepared to be sowed or planted for another.

It would be superfluous for us to point out the great benefit arising from thus continually digging, stirring, and hoeing the soil; or to observe, that by thus continually varying the culture and the kinds of plants, the soil never seems to be exhausted.

Though the garden culture cannot be wholly introduced into the farm, yet the nearer a Farmer approaches to it, the nearer he will approach towards that perfection which he wishes for,—which is raising the most profitable crops with the least expence. He will consider, if he can raise two crops in one year, that there is no more rent to pay than if he raised but one crop.

Let us, for example, suppose that a field was sown with early pease: the moment they are off, the land will be ready for turnips. Again, if it was planted with beans in rows of a proper distance, they might be hoed a little before they are in blossom, and then the intervals might be sowed with turnip seed: in either case the turnips would be ready for winter seed.

We need not enlarge; the season, the soil, &c. will suggest a variety of opportunities where this sort of culture may with great propriety be adapted to concurring circumstances; and let not the husbandman forget that his arable land will always be producing a crop of either *corn* or *weeds*, and then he will

hardly require us to remind him of preferring the former to the latter; for when land is covered and shaded with a crop of any useful plants, the weeds will proportionably be kept down, or excluded.

The Kentish hop-planters seem to have adopted this system long ago; accounting new land best for hops, they plant their hop-gardens with apple-trees at a great distance from each other, and with cherry-trees between. In about ten years the hops will have exhausted the land, by which time the trees begin to bear. The cherry-trees will last about thirty years, by which time the apple-trees become large, and then the cherry-trees are cut down.

In the warmer climates, this mode of culture by mixing crops which may succeed each other is particularly attended to: great care is likewise taken to intermix the luxuriant plants with those that require to be shaded from the intense heat of the sun. From this circumstance of double cropping their land, some hasty inattentive travellers imagined and have told us, that the soil produces three or four crops in one year.

ARTICLE III.

On the best Method of raising Garden-Stuff for the Table.

Communicated by a Gentleman of Fortune.

MR. SYLVAN,

EVERY person is sensible how rank and ill-tasted esculent roots and plants sometimes are when raised from soils that are richly and newly dunged; this is more readily distinguished when it is compared with those which are raised from fresh undunged land. As fresh soil is not always to be had, I endeavoured to find a succedaneum by pursuing the following method.

I inclosed for my kitchen garden considerably more land than is sufficient, according to the rules commonly laid down by kitchen gardeners. I dung one part of it very liberally, and then sow it with barley and clover; this takes off the rankness of the manure, and makes the soil fine and mellow, and it then produces some of the sweetest garden-stuff in the world. I can safely say, that no person raises finer or sweeter, or in greater quantities. Before this is exhausted, I manure another part, and raise a crop of corn with clover in the same manner.

As

As this remarkable sweetness in my garden-stuff has often been noticed at my table, I now give it you for the *Farmer's Magazine*; and am, &c.

Oxfordshire.

R. N.

[This Gentleman has conferred a lasting obligation upon us. But there never was an age in which more improvements were made, or more readily communicated than the present. Noblemen and Gentlemen seem to vie with each other in improving their estates, and in diffusing that knowledge so happily gained from their own experiments.]

ARTICLE IV.

Query, relative to the decay of Espalier Apple-Trees.

Mr. SYLVAN,

SOME years since, my garden (which is not a large one) was planted with a few espalier apple-trees; they thrive exceedingly, and bore fruit well, but soon afterwards the trees appeared to be in a declining state; some of the young branches decayed, and in the bark of others of the last year's growth, dead spots appeared, which increased till they, like the others, decayed and died away. Some pear trees planted at the same time against the wall have not been touched in this manner, but still continue in a healthy flourishing state. The soil is dry, rich, and black; but I am not certain what he under stratum is, though I have reason to apprehend it is a tumble rock intermixed with clay. If you, or any of your correspondents, will please to give me your opinion of the reason why the above trees decayed in the manner related, it will be esteemed a favour, by

Your's, &c.

C——, Wilts, July 4, 1776.

A. W.

[The preceding *Query* is indeed an important one, the same observation having been made in many parts of the kingdom; every lover of a good fruit-garden will be glad to see the cause investigated. At present we shall only refer our readers to page 48 of our first number, where they will see Mr. *Boucher's* reason for decays similar to those alluded to by our correspondent, reserving our own more particular sentiments till the next month, when, if necessary, they will appear with such answers as we receive from our readers who are conversant with the subject.]

ARTICLE V.

On the Management of Cows, with Remedies for some of their most common Disorders.

MR. SYLVAN,

IT was my intention some time ago to publish my observations in a small volume; but the *Farmer's Magazine* appearing, I resolved to send some of them to be therein inserted, as most likely to be much read. I am now descending apace into the vale of years, and would methinks do all the good I can. If I am happy enough to hear the world applaud what I know is valuable, perhaps I may yet publish the whole together, as it will throw lights which have been much wanted on the diseases of one of the most useful animals in nature.

Cow-Leeches are very cautious how they discover the least remedy they are acquainted with, and books afford little instruction. I am indebted to a Cattle-keeper of my father for the first instructions, which in my business has been much improved: from him the physical air of the prescriptions is copied; for he had a good education, though he was afterwards reduced.

If the experience of years can establish truth, I may lay some claim to attention; and whatever other observations I can recollect or meet with, I shall send for the *Farmer's Magazine*, as I wish to encourage every work set on foot for the service of mankind.

July 6, 1776.

C. WILLIAMSON.

THE difference of countries will make it almost impossible to lay down such rules for the management of Cows as may suit with all: I shall therefore content myself with a few general observations in this place, which may tend to render them healthy and serviceable.

I would first, by all means, advise every Farmer to have a rack and manger for his cows, with a loft over for hay; from whence it may be put down as for horses; and he will find that they will eat with more satisfaction, and make infinitely less waste, than by the common method of laying it on the ground; the manger should be about seven or eight inches from the ground, and always be kept very clean by the cow-boy. The floor should be made a little sloping to keep it dry, and is best made with chalk, (or thick oaken plank, where it can be had,) or else gravel instead of chalk, but chalk is best.

The

The calf-pen should be roomy, and is best built six or eight inches from the ground, and floored with oak boards that have holes bored through to drain off the urine.

Frequent change of feed is very necessary from one meadow or pasture to another; and in summer, if the weather be very wet and rainy, they should have hay or other dry meat to counteract the mischief that may accrue from eating the dissolved grass, which is then neither nutritive nor very wholesome.

When the summer is exceeding hot and dry, the benefit of a pond under the shadow of some trees is almost inconceivable; the flies being otherwise so very troublesome as to bring on several disorders, and particularly loathing their food.

Cows are subject to many diseases; a few of which I shall now select, and shall endeavour to be as particular and intelligible as possible, and subjoin those remedies which in my practice have been attended with great success.

Sickness, or Inclination to vomit and cough.

This symptom is very prejudicial to a cow's health; it makes her bare of flesh, and distaste her food.

The CURE—*Maschal* (who was a good compiler on the diseases of cattle) recommends a raw hen's egg to be thrown down the throat, shell and all, and on the morrow some bruised raisins to be given in wine or ale;---but nothing better can be given than toasted bread soaked well in good beer or ale, with a little nutmeg and sugar, given frequently a little warm, and every night the following drink:

Powder of Diapente,
Coriander seeds, each one ounce;
Warm ale, one pint.

[See the article **ALEBERRY** in the Dictionary of Husbandry, &c. No. II. of the *Farmer's Magazine*.]

Loss of Appetite.

1. Give some horehound dried and powdered in a little warm ale.
2. Give half an ounce of senugreek in warm ale night and morning, or made into a ball with treacle.

Colic, or twisting of the Guts, without a Flux.

The symptoms are, a rumbling noise in the guts, the cow will often lie down and suddenly rise again, with a lowing through pain.

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The CURE—Draw blood, by pricking under the tail; and let the following clyster be given every three or four hours:

A decoction of chamomile flowers, three pints,
Sweet oil, two ounces,
Common salt, two spoonfuls,
Laudanum, half an ounce.

Warm mashes of bran steeped in water should be kept continually before them, and the following balls given and repeated every two or three hours:

Aniseed,
Horse-spice, and
Diapente, each half an ounce;
Treacle, a sufficient quantity.

Or, an ounce of Mithridate may be given in a quart of warm ale, and repeated in six hours.

If, as it sometimes (though seldom) happens, that no dung should come away notwithstanding the clysters, then the hand (previously oiled) should be introduced into the strait gut to bring away the obstructed faeces.

Colic, with a Flux.

This is more frequent than the above, and at the same time very dangerous, as cows can very ill bear purging.

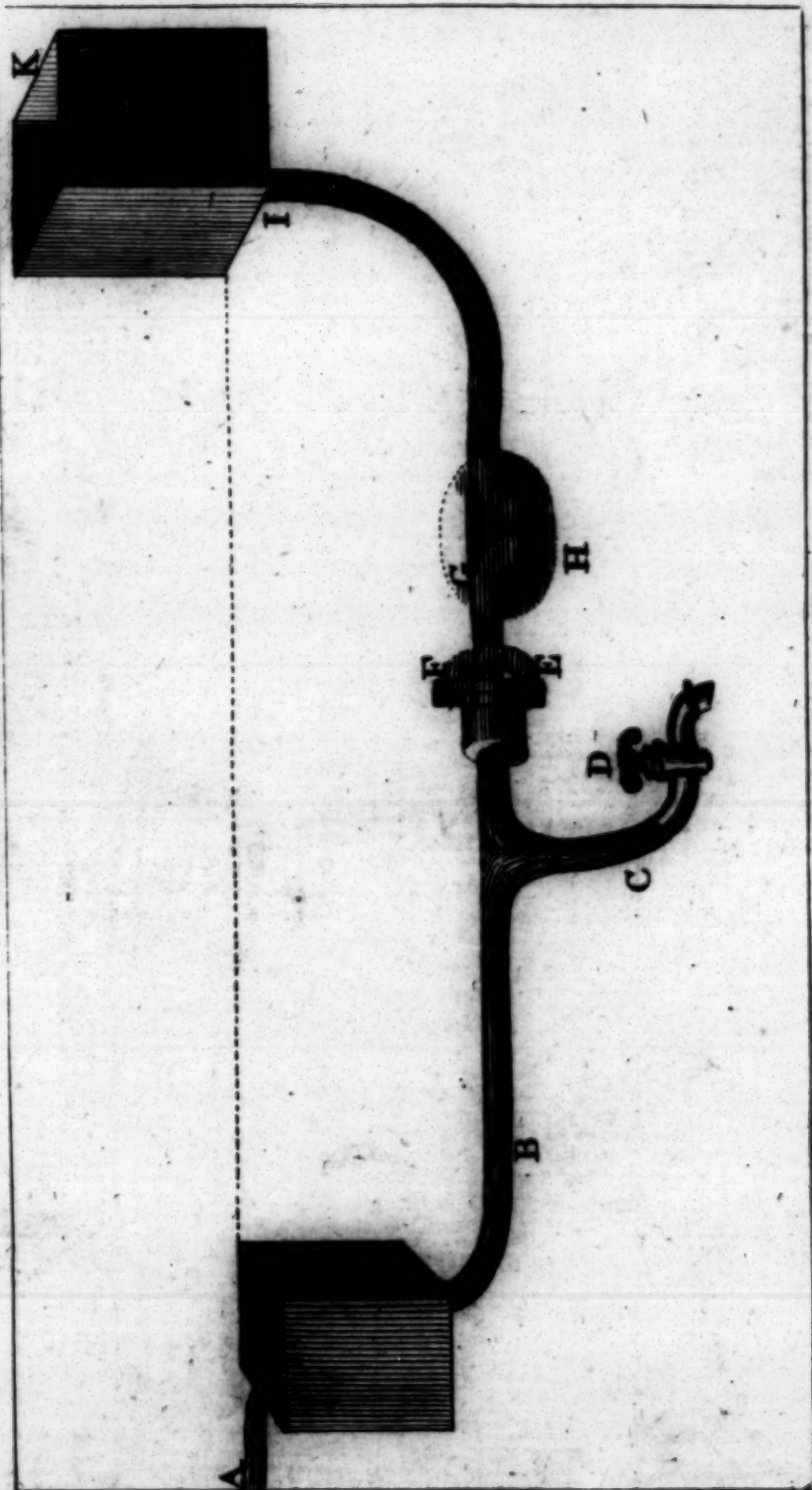
The CURE—Boil an ounce of logwood in three pints of water till it is reduced to one pint, adding, during the boiling, half an ounce of gum arabic; strain and mix with it one ounce of starch, and the same quantity of the electary of bayberries, for a drink, to be repeated in three or four hours; and the following ball every four hours:

Mithridate,
Armenian bole, each half an ounce;
Gum tragacanth, in powder,
Starch, each three drachms;
Conserve of Roses, enough to form a ball.

[We hope Mr. *Williamson* will continue this subject, as it cannot fail giving great pleasure and satisfaction to every person who is concerned with the management of cattle; nothing scarcely is more wanted than such judicious remarks, and such well-authenticated recipes.]



Engraved for the Farmers Magazine.



A new and simple Method to raise Water above its level.

ARTICLE VI.

On the Impropriety of sowing Land immediately after it has been ploughed deeper than usual.

Mr. SYLVAN,

THOUGH many experiments may have been tried to ascertain the proper depth of ploughing on clay or strong land, I have not met with a proper elucidation of the matter in any book of husbandry I have read, and therefore send you my thoughts on the matter. Being, like your correspondent *Columella*, an advocate for deep ploughing, but always supposing the manner of ploughing should differ as to seasons, I never plough an extraordinary depth for winter or summer crops when I mean immediately to sow the ground I plough; for if I plough beyond the usual tilth, I bring up sour, raw, coarse soil, which, instead of benefiting the corn, impoverishes it, and tends to corrupt that land which was already good, and injure my crop. But if I find the depth of my land insufficient, I would, in a summer fallowing, and then only, stir the land deep, and by the genial heat of the sun in summer that fresh earth or stiff clay becomes mellow, and the goodness of the crop evinces, that deep ploughing at a proper season will always answer if the soil be good.

HESIOD.

P. S. Clay, ditch earth, &c. flaked by the winter's frost, and mellowed by the summer's sun, becomes good manure; but where it is put in a close heap and not turned several times, and laid ragged, it will fill the land it is laid on full of clutter and weeds.

[*Hesiod* has confirmed the sentiments and opinion of *Columella*; and as they both appeal to their own knowledge and experience in husbandry, their observations will have the greater weight with practical Farmers.]

ARTICLE VII.

A new and simple Method of raising Water above its Level.

[With a COPPER-PLATE.]

Mr. SYLVAN,

I Have sent you a method of raising water above its level by its own momentum, with which I was favoured by the very ingenious inventor Mr. *Whitehurst*. If I recollect right, he

he told me that he erected it at a gentleman's seat in Cheshire, and that it answered his expectations. I think it cannot fail being universally approved, on account of its simplicity; and when it is considered how exceedingly useful it must be in many noblemen's and gentlemen's houses, farm-houses, &c. your readers will with me think that it well deserves a place in the *Farmer's Magazine and Useful Family Companion*.

I am, &c. W. S.

The vessel A represents the spring or reservoir of water, which it is required to raise four, five, or six feet higher for the use of some of the offices, and communicates with the vessel K, by means of a pipe B, E, I, as expressed in the plate. The pipe may be an inch and a quarter, or an inch and a half diameter. At E is a box with a valve f. C is a lateral pipe of the same diameter with the other pipe B, and has a cock at D.

The lateral pipe descends from the pipe B into the lower offices, so that the cock is at least sixteen feet below the surface of the spring at A. Now when the cock is opened for a short space of time, and suddenly stopped, the whole column of water being put in motion will, by its momentous force, open the valve f, and rise into the vessel I, K, the bottom of which is level with the top of the other vessel A.

This momentum will appear to be considerable to those who know that water discharged through an aperture in the bottom of a tube or vessel, where the superincumbent column or pressure is constantly and uniformly sixteen feet perpendicular, moves with a velocity equal to thirty-two feet in a second of time. That the momentum was much greater than the simple pressure of a column of water in the vessel K, five or six feet high, appears from its having burst a pretty strong air vessel denoted by the dotted circle G, H, into which the main pipe was inserted.

If the lateral pipe was lengthened, in other words, if the lower offices would admit of the cock being more than sixteen feet below A, the momentum would be greatly increased, and consequently the water might be raised higher; for the velocity of water arising from the pressure of superincumbent water, whether in a pipe or at a sluice, is the same as that which an heavy body acquires in falling from an height equal to the altitude of the water in the pipe, &c. but if, on the other hand, the lateral pipe was shortened in any considerable degree, the momentum would be so much lessened that its effect would hardly be sensible.

I shall

I shall only add farther, that the distance between the two vessels from each other is immaterial; and that, as the lateral pipe is supposed to be carried down into the kitchen, where water is so frequently wanted, the necessity of a person attending to turn the cock, will of course be superseded.

C-----

W. S.

[We are much obliged to W. S. for this favour; and to convince him and our other correspondents of our readiness to please, we have procured the drawing to be neatly engraved.

As some of our readers may not be so well acquainted with the velocity which heavy bodies acquire in descending through any given space, we shall for their information observe, that the space thro' which any heavy body descends in a second of time is $16\frac{1}{2}$ feet; in two seconds it descends through four times that space; in three seconds it descends through nine times that space, and so on.

Upon the whole, this is a very ingenious mode of raising water by its momentum, it does honour to Mr. *Whitthurst*, and may be usefully applied to many mechanical purposes.]

ARTICLE VIII.

On a beneficial Method of spending a Crop of Vetches, and raising the best Seed.

Mr. SYLVAN,

I AM obliged to you for inserting my letter "on the benefit of sowing foul land with winter vetches" in your first number; I now send you some remarks on a more beneficial method of spending a crop of vetches than what is practised by many Farmers, though some follow the same method, well knowing, from experience, it is most profitable.

I always feed them quite down with sheep as soon as they are fit for the purpose, that is, in the latter end of April, or the beginning of May; and then I leave them for seed, which I find to be much better than when they remain for seed without being first fed off.

I am, Sir,
A FARMER.

[This method is certainly very profitable, but it can be practised only in good land where the vetches would otherwise be too rank in the autumn, for this renders the seed the less valuable. Were vetches to be fed off with sheep in very poor land, there would be no seed at all. This deserves attention, because, as our correspondent justly remarks, there are many Farmers who are strangers to this improvement, though they have it in their power to reap the benefit of it.]

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ARTICLE IX.

On Films or Specks in the Eyes being removed by applying fixed Air.

—Mr. SYLVAN,

I Sent you a recipe for sore eyes, which was inserted in the first number of the *Farmer's Magazine*. In the Dictionary, under the article *Fixed Air*, mention is made of its being applied with success in the cure of several disorders. It is certainly a powerful antiseptic, and hence its exhibition in putrid disorders has often been attended with very happy effects. The curious will receive great pleasure in consulting the appendix to Dr. Priestly's second volume of *Experiments and Observations on different kinds of Air*.

It is well known that the miners and smelters of lead, when afflicted with an asthma, fly to the lime-kiln for a cure, which is effected by inhaling the fixed air of the lime while it is burning; but it is not so well known that fixed air is a sovereign remedy for a film or speck in the eye. An acquaintance of mine, who has a universal character of being a very sober, honest man, has assured me, that he has often removed specks both in his own and other people's eyes, by pouring water upon quick lime, and then receiving the steam, as it rises, into the eyes. He is much advanced in years, by trade a mason, and adds, that his father, who was of the same profession, frequently used and recommended this remedy, and that he never knew it fail when properly repeated: great care must be taken not to raise any dust from the lime.

The light is indeed very precious; and every hint to preserve or restore it, I think, deserves a place in your *Useful Family Companion*. I am, &c.

CLERICUS.

ARTICLE X.

On Disorders incident to Children.

SIR,

A S part of your Magazine is appropriated to *Family purposes*, I am of opinion that you cannot more oblige your readers who have families, than by giving some well-authenticated remedies for disorders to which children are subject, such as worms, cutting their teeth, the hooping-cough, &c. I should wish to see this in your fourth number; and any

Yours
ARTICLE

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[We are extremely happy in having it in our power to oblige our readers on this subject. We must not however forget, that great part of our work should be appropriated to the improvements in husbandry; the other miscellaneous articles multiply upon us very fast; for receipts, even good ones, on miscellaneous subjects, are easily collected; we shall therefore in this number only offer a short remark on children's teething, or, which others call, cutting their teeth.

A variety of remedies have been published; such as amulets, charms, and necklaces in abundance; others bordering on sympathy; but while the true seat of the pain was little more than guessed at, the bills of mortality were greatly swelled with the number of children who died of this disorder. In 1736, we see upwards of 1400 under the article *teeth*; but in 1775, not half that number.

Those who are at all conversant with anatomical researches, need not be informed that the bones are immediately covered with an exquisitely soft, but sensible membrane, called the *Periosteum*; this membrane, therefore, covering the jaw bones, must be perforated before the teeth can possibly appear. Previous to this perforation, the Periosteum is always more or less distended, and sometimes to a great degree, which occasions all those dreadful symptoms that are so well known, and in many families so fatally experienced.

The source of this disorder being thus ascertained, nothing more is necessary than just to touch the edge or top of the gum where the teeth are going to appear with the point of a lancet, and the pain with its consequences ceases almost immediately, and the teeth almost as instantaneously appear. We are under no apprehension when we appeal to the Faculty for the justice of these remarks; and tho' the application of the lancet is not entirely new, yet the true mode and certainty of its application till lately, has been but very imperfectly understood. In our next we propose to give a remedy for the worms.]

ARTICLE XI.

On the Impossibility of fixing the best Time for sowing Wheat in different Counties.

Mr. SYLVAN,

MUCH has been said and written, and many experiments tried, to ascertain the best and most proper time for sowing wheat. It seems to be generally allowed by most writers, that September is the best month in the whole year for this purpose, though the beginning of October may likewise, in many seasons, be admitted on their principles; but what beneficial purpose these experiments answer, I know not.

In Hampshire, and in some parts of Berkshire, &c. the Farmers sow their wheat very early, which has commonly been

observed to be up in September; and yet, in the vale of Tann-ton-Dean, from whence the Hampshire and Berkshire Farmers are supplied with their seed wheat, it is as commonly sown three months after. Were the Farmers who occupy deep, rich land in the vale, to sow in August, or the beginning of Sep-tember, and the winter should prove a mild one, the wheat would be so rank and winter proud, that they would not re-ceive back their seed at harvest.

As Mr. Reynolds's method of brining and liming wheat, which he sent to the Society for the Encouragement of Arts, is the best and most simple hitherto discovered, and is but in few hands, you may perhaps insert it, without being blamed for inserting *stale remarks*; it would now be useful to many Farmers, on account of the season approaching for sowing wheat.

I am, &c.

C. W.

[In compliance with our correspondent's request—Let stone lime be put into water, in the proportion of a bushel of the former to 70 gallons of the latter; stir it well, and the next day pour off the clear water into another vessel, and add 3 pecks of common salt, to the above quantity, and stir it till all the salt is dissolved; when it will be fit for use. Put the wheat in a basket and steep it in the water, stirring the wheat for a short time, and skimming off the light grains; drain the basket for a minute or two, according to its size, and in a few hours after the wheat may be sown. Mr. Reynolds says, that, in the course of thirty years, he never knew wheat prove smutty that was steeped in this pickle.]

With resp. to wheat being winter proud, we know some writers have advised its being sown early in the spring; we have known bad effects proceed from this practice; but never any good ones, for the wheat does not afterwards fill in the ear, nor can we con-ceive upon what principle it is recommended.

The case is widely different when wheat appears to be weak and thin in the spring; because if sheep are then turned upon it for a short time, they will, by checking its growth, occasion it to stool, or tiller.

The reason given by our correspondent why no experiments can be decisive, in determining the best and most proper time for sow-ing wheat, is, in our opinion, strongly in point.]

ARTICLE XII.

On the Danger of sometimes ploughing too deep.

Mr. SYLVAN,

YOUR correspondent who writes from near Mendip, in your last Magazine, mentions an orange-colour'd, hungry, bar-ren sand or gravel under the soil, which, if once ploughed up, will

will tire the patience of the Farmer; this appears to be similar to that kind of earth which we in this country call loam, on account of its colour. I am pretty certain that it contains some iron ore, and that the Farmers cannot be too cautious in ploughing it up, for it almost destroys the power of vegetation both on tillage lands, and those laid down for pasture.

Willshire.

[We are desirous of throwing all the light we can upon this subject, and have for that reason inserted this farther caution. We are much pleased to find our correspondents agree so well upon this head; we have already professed ourselves advocates for deep ploughing, and nothing has yet appeared that tends to make us alter our opinion. All that has hitherto been offered are only cautions in some few cases, and which a Farmer would do well not to overlook, or forget.]

ARTICLE XIII.

On the Benefit of Sand as a Manure for Clay Soils.

SIR,

I AM much pleased with the plan of your Magazine, and hope you will adhere to it, and carry on the work with spirit. If you had attempted to give a "System of Husbandry," you would have found but few readers, and, consequently, still fewer purchasers; the press groans with *complete systems*, and yet how little is to be learned from them: they give us the same over and over again, and a man who would undertake to manage a farm without any other knowledge than what he gained from such books, is hardly fit for any thing else than a strait waistcoat; not that I am an enemy to books, I have read much. All that I expect, or that any other Farmer expects, or indeed wishes for in books, is some new improvement, some particular hint, or addition to our present stock of knowledge; we do not want to be taught when to plough, or to sow, or to reap, or what quantity of dung we ought to put upon our land; we understand these things as well, I may say *better*, than the writers of systems. How is it possible that a man (who possibly never held the plough in his whole life, for this is the case with some writers on husbandry) can point out the best rule to manage a farm, to which he is an entire stranger? Who in his senses would follow these guides to wealth? It is most probable that if a man was to pay a visit to one of these "practitioners of the new and old husbandry," in order

order to see the neatest and best cultivated farm in the whole kingdom; he would on enquiry be directed to one of the rooms upon the first floor* in Grub-street.

Those hints which you have already published will, as you say, repay such a trifling sum as six-pence a month; would there were no more six-pences than these trifled away! but my principal reason for troubling you with this, is to mention a simple method of improving stiff clay soils by means of spreading sand upon them.

I have had an opportunity of knowing its great utility in three or four several experiments, both on waste and grass lands. The sandy substance which is sometimes washed to the bottoms of hills in hard rains, after it has lain some time, is of singular service. I have known a piece of pasture land, which in summer chapped to such a degree that it was disagreeable for people to walk over it, cured by spreading upon it this kind of *drift-sand*, as I have heard it called. Though this method of improving land is not new, yet it is very rarely practised, at least not nearly so much as it ought to be; for since turnpike roads are so common, this kind of manure may be had in much greater plenty, and will mix with clay very readily.

It is well known that clay shrinks greatly in drying; but if a little sand be well mixed with it, this property is greatly diminished; hence how sand acts as a manure upon clay, will easily be understood. In hot, dry weather, clay is baked, as we may say, but sand is loosest; in moist weather these properties in both are partly reversed.

Somer set share.

G. G.

[On reading some of our modern "Systems of Husbandry," we are naturally reminded of the Philosopher's remark after he had walked through the fair, and surveyed the numerous trinkets,— "How many things here are, says he, which I do not want!"

Doctor Lewis, in his "Philosophical comment of arts," informs us, that pure clay shrinks in drying about one ten or twelfth part; but if a little sand be mixed with the clay, it will then shrink in drying about one thirtieth part only. The particles of sand being so much larger than those of clay, prevent the latter from adhering too closely; these interstices thus formed, will therefore readily admit the moisture to pass off in rainy weather; and in very hot, dry weather, sand, as our correspondent with the greatest propriety observes, being loosest, will prevent the clay from being baked, as we may venture to term it.]

* A cant term for a garret.

ARTICLE XIV.
Columella's Dissertation on the different Kinds of Manure.

CONTINUED.

THE dung-hill only is the farmer's universal refuge; he flies to it, says Duhamel, on all occasions; but its improper use only ought to be condemned. Less dung and more tillage than is commonly used would undoubtedly produce better crops. Tull's principal fault, in my opinion, lay in totally excluding dung from his system; I have already observed, and I appeal to the experience of every person who has tried the experiment, when I repeat, that tillage, and the influence of the atmosphere, will not restore so much to the soil in one season as is taken from it by a large crop of corn; for the shortness of the time allowed will not admit of it.

I know it is a custom with some farmers to dung seldom and liberally; with others, to manure often, but with a more sparing hand. Wheat or other grain sowed upon a dung-hill would produce but little; the wheat would generally be smutty, as it frequently is in hot soils that are over dunged, of which one of your correspondents has given a good account in the first number of this Magazine. When long litter dung is grown mouldy and ploughed into the ground in this state, and wheat immediately sown, a smutty crop is often the consequence.

In making composts with dung, lime, and earth, care should be taken not to lay the lime next the dung, because it is apt to burn it; but let there be a stratum of earth between. The different strata in composts are often made too thick, so that the fermentation which is wanted goes on too slowly. If at any time this should be unavoidable, the whole should be frequently turned and mixed; in short, composts are not in general so often turned as they require, nor sufficient care taken to prevent the weeds which grow upon them from running to seed; just as the weeds are beginning to flower, let them all be digged into the compost, and not plucked up and thrown away, as is the wasteful custom of some Farmers; for rank weeds will make good manure. Rushes, fern, and weeds of all kinds, before they seed, may be added to the compost, to increase its quantity.

A Farmer should throw no more straw into his yard than is absolutely necessary; it would turn to a much more profitable account to take in stock to eat it; let him consider what a

very no

very small portion of poor dung a load of straw will make if suffered to lie in an heap till it is rotted; and how much superior to it animal dung is of every kind.

I cannot by any means in the world approve of covering farm yards with strata of earth and straw; I should be sorry to see my cattle plunging up to their knees in dirt; I wish to keep them clean, and dry, and warm. And in fact, the principle of thus raising manure in this manner, on a supposition of its being cheap, does not seem to be well founded. A Farmer must often fetch earth from a considerable distance into his yard, and then be at a second expence to cart it to the field. But admitting this principle to be a good one, I know that in many cases it will not pay on account of the distance; I should therefore recommend composts to be made as near as possible to the fields intended to be manured, only observing to cart the dung to that part of the road or lane, if it be wide enough, where there is plenty of earth to mix with it; or else, to carry it at once into the field, where in some corner he may find earth enough; but of this every Farmer will himself be the best judge. I would upon the whole however recommend to him, never to put dung upon land without first mixing some earth with it; except in the particular circumstance (noticed in your last number) where land is much infested with grubs, and where litter dung must on that account be preferred.

I would not designedly make a farm-yard slope so much as to render a cess-pool necessary to receive the runnings, which in such a case would be incessant in rainy weather, because it would be robbing the dung of its richest part to answer no purpose, it being much best retained. But if the yard was so situated, a Farmer would be highly to blame not to make one, unless he could, by making proper drains, prevent the urinous part from running to waste. The liquor which thus drains from the yard, stables, &c. proves a very rich manure; it has often been applied, by means of a water-cart, upon both arable and pasture lands, with the wished-for success. In the United Provinces, if I mistake not, they fasten a bag to catch the urine of their cows, so sensible are they of its fertilizing quality.

Great care should be taken not to apply dung in its raw state to the roots of trees or shrubs, it being very prejudicial to them; but when mixed with earth till it is perfectly rotted, this pernicious quality will be corrected.

I shall conclude this part of my dissertation with a remark on a popular mistake, which is, that earth or vegetables laid

in heaps to rot, produce the same quantity of salts as when burnt to ashes; than which nothing can be more remote from fact. The different kinds of ashes which are so beneficial in manuring land, abound with fixed alkaline salts, but not one grain of these salts can be obtained without the action of fire; a small portion of volatile salt may indeed be procured, but it is so small as not to be worth notice. I propose to consider the properties of peat ashes, soaper's ashes, &c. in my next.

[We take this opportunity of mentioning a piece of husbandry quite a-propos to the doctrine laid down by others, as well as *Columella*, respecting the liquor that drains from yards and dung-hills, which we remember to have heard is practised in Italy, if our memory serves us right.

The Farmer makes a basin or reservoir, sufficiently capacious, upon one of the highest and most commodious spots of land upon the estate, into which he throws his manure, and then fills it with water by means of an aqueduct, or a pump; when the water is sufficiently impregnated, it is let out, and by proper drains and carriages conveyed over the lands intended to be manured. How far this may be practicable in this country is not our business at present to discuss; but perhaps in some future number we may venture to risque a few remarks upon it.]

ARTICLE XV.

A cheap, certain, and profitable Method of sheltering Cattle and Land that are exposed to Sea Breezes.

SIR,

WHEN we see the poor cattle near the sea coasts shivering with cold; the trees and bushes flinted, with tops that seem to have been clipped with shears; we seem to wish that some tree or shrub could easily be procured which would thrive pretty fast in such a situation, and afford the so-much-desired shelter.

On turning it in my thoughts I recollected the Birch tree, which, Mr. Boucher says, the late Earl of Haddington justly stiled an amphibious plant, because it will grow in any soil or situation, whether it be rich or poor, wet or dry, sandy or rocky.

It would be to little purpose barely to recommend raising woods or planting coppices, merely to try whether the experiment would succeed; but I recollect to have seen very fine birch trees, and pretty extensive coppices, near the sea coast in some part of Dorsetshire, where neither oak, ash, elm,

nor fir would flourish. As the birch is so well recommended both from books and experience, and is so easily raised, those gentlemen, &c. who want plantations for the above-mentioned purpose, can now be at no loss to know what will succeed, at a small expence. Though the timber is not very valuable, it is however an useful one, and will serve for many purposes which I need not enumerate.

Bath, July 12, 1776.

V A R R O.

ARTICLE XVI.

General Rules for distilling Spirituous Waters.

[Continued from page 72.]

B*Y spirituous waters* are understood those in which the spirit is only of the proof strength, by which is meant, spirit that contains an equal mixture of water. They have been usually called *compound waters*, even when distilled from one ingredient only; as those on the other hand, which are drawn by common water, though from a number of ingredients, are named *simple waters*; the title, here, relating not to simplicity in respect of composition, but to the vehicle being common water.

1.—The plants and their parts ought to be moderately and newly dried, except such as are ordered to be fresh gathered.

2.—After the ingredients have been steeped in the spirit for the time prescribed, add as much water as will be sufficient to prevent an empyreuma; that is, burning to the still.

3.—The liquor which comes over first in the distillation, is by some kept by itself under the title of spirit; and the other runnings, which prove milky, fined down by art. But it is better to mix all the runnings together without fining them, that the waters may possess the virtues of the plant entire; which is a circumstance to be more regarded than their fineness or lightness.

If the distillation be skillfully managed, the heat equable and all along gentle, and no more drawn off than the quantity directed, most of the waters will appear sufficiently bright and fine; some of them which look turbid just after they are drawn, will on standing for a few days become clear and transparent. The practice here forbidden, of saving some of the first runnings apart, is certainly very injurious to the composition; the water being not only robbed by it of some of the
more

more volatile parts of the ingredients, but likewise rendered permanently milky, as wanting the spirit which, by dissolving the oil of the ingredients that gives this appearance, would make the liquor transparent. Nor is the method of fining the turbid waters by alum, &c. less culpable; for these additions produce their effects only by separating from the liquor what it had before gained from the ingredients. We shall here give a few of the best recipes for spirituous waters.

Spirituous Cinnamon Water.

Take of cinnamon, one pound; French brandy, one gallon. Let them steep together for two days, and then distil off one gallon.

This is a very agreeable and useful cordial water, but not so strong of the cinnamon as might be expected; for very little of the virtues of the spice arise till after the pure spirituous part has distilled. There is another method of making this water, which is by some preferred as more elegant, equally strong of the cinnamon, and free from the nauseous taint with which the common proof spirits are impregnated. It is made by mixing the simple cinnamon water with somewhat less than an equal quantity of rectified spirit; on shaking them together, the liquor loses its milky hue, and soon becomes clear.

Spirituous Pepper-mint Water.

Take of pepper-mint leaves, dry, a pound and a half; proof spirit a gallon; water, as much as is sufficient to prevent an empyreuma. Draw off by distillation one gallon.

This water is made use of in flatulent colics, and other like disorders, in which it often gives immediate relief; though it is not near so strong of the pepper-mint as the simple water.

Plague Water.

Take of masterwort roots, and butter-bur roots, each four ounces; Virginian-snake-root, and zedoary, each two ounces; angelica seeds, and bay-berries, each three ounces; scordium leaves, six ounces; French brandy, two gallons. Pour the brandy on the other ingredients, first cut and bruised; digest for four days, and then distil off two gallons.

This water is not a little unpleasant, tho' it has scarce any advantage to counterbalance that inconvenience, notwithstanding its title.

Eau De Carmis.
 Take of balm leaves, fresh, four ounces; lemon-peel, fresh, two ounces; coriander seeds, and nutmegs, each one ounce; angelica root, cinnamon, and cloves, each half an ounce; balm-water, one pint; proof spirit, two pints. Powder the dry ingredients, and digest them with the spirit in a close vessel for two or three days; then add the balm-water, and distil in *balneo maris* to dryness.

This water is an elegant cordial, all the ingredients giving over to it great share of their flavour; the balm, though it seems intended as the principal, yields the least. It has of late been greatly esteemed in most parts of Europe.

Arquebuse Water.
 Take of comfrey leaves and roots, sage, mugwort, and bugloss, each four handfuls; betony, fanicle, ox-eye daisy, common daisy, greater figwort, plantain, agrimony, vervain, wormwood, and fennel, each two handfuls; St. John's wort, longbirthwort, orpine, veronica, lesser centaury, milfoil, tobacco, mouse-ear, mint, and hyssop, each one handful; wine, twenty-four pounds.

Having cut and bruised the herbs, pour on them the wine, and let them stand together in digestion, in horse-dung, or any other equivalent heat, for three days; afterwards distil in an alembic with a moderate fire.

This celebrated water has been for some time held in great esteem, in contusions, for resolving coagulated blood, discussing the tumours that arise on fractures and dislocations, for preventing the progress of gangrenes, cleansing and healing ulcers and wounds, particularly gun-shot wounds; but the virtues of most of the herbs residing in such parts as are not capable of being elevated in this process, we fear the virtues of this water have been greatly exaggerated.

ARTICLE XVII.

The Advantages and Disadvantages of ploughing in green Crops for Manure, considered.

MR. AGRICOLA SYLVAN,

SIR,

As none of your correspondents have yet thought proper to give their opinion about ploughing in green vegetables for manure, I shall take the liberty to say a few words upon the subject.

This

90 This custom is very antient ; but among the moderns (if I may tell them so) the Flemings are allowed to be the first who practised it with any tolerable success. It appears from their history that they laid great stress upon it, and this has probably induced many English Farmers to think more highly and favourably of the practice than it may deserve ; for it should be first considered, that the Flemings lived upon very small farms, which they managed with abundance of neatness, care, and industry, so that they looked more like gardens than farms.

101 Many farms have too great a proportion of arable land, and are situated at too great a distance from towns to purchase dung upon terms that would make it worth the Farmer's while to fetch it ; for he must consider the nature of his soil, and what crops it will bear, before he ventures too far in his expences. It likewise sometimes happens that the proportion of the arable land all through the whole country is much too great ; and that manure enough cannot be had on any terms for the quantity of land kept in tillage, and this occasions very poor crops in return ; for some Farmers are very fond of ploughing and sowing *all* their land, if possible, when corn fetches a pretty good price, forgetting what will be the consequence of worn-out land when corn is cheap ; and pleasing themselves all the while with the thoughts that when this consequence does happen, that their landlords must either lower their rents, or take the farms into their own hands. When a farm is thus situated where dung is scarce, what is he to do ? Is he to sow without dunging his land, or to let it lie still for fear of being thought wasteful and slovenly by ploughing in buck wheat, clover, vetches, &c. ? I answer, he is not to sow without manure, nor to let his land lie still, nor yet to plough in his clover or vetches, unless he is forced to it from some unforeseen circumstances, for these will sometimes happen to the best Farmers ; but choice and necessity are not the same. I shall more particularly consider this another time, confining myself now to the eligibility of ploughing in a crop of clover for instance.

102 At first sight it seems absurd enough to raise a good crop and then to plough it into the earth again ; it would indeed be a real absurdity if vegetables received the whole of their nourishment from the soil only ; but this is now well known not to be the case. A good crop, (for we will suppose it a good one for the sake of the argument, tho' land which wants to be manured does not always produce a heavy one) I say then that a good crop which covers the ground will make it fine and mellow,

mellow, for there not being a free circulation of air on the surface of the land, the dews, &c. will ferment and putrefy, and of course this putrefaction will meliorate the soil; and no one is so hardy as to deny that a good crop of vegetables ploughed in will manure the land, and make it fit to bear a crop of corn; but then I always find that the vegetable manures are weaker and wear out sooner than the animal manures. Its virtue therefore being on all hands admitted, the first thing to be considered is, the nature of the crop which the Farmer intends to manure for; some make it their constant rule to manure for wheat, others for turnips, others for beans, whichever crop is intended to come first in the course; for this will require a different manner of treatment, because a person will not plough in his clover at the same time of the year for wheat as he would for turnips or beans; but of this the Farmer will judge for himself easily enough without my instructions; but I think the following piece of husbandry more beneficial to the land, and more profitable to the Farmer.

As the broad clover may commonly be mowed twice, the first crop should be mowed as early as circumstances would admit, and the second crop folded upon itself. If the farm is not found for sheep, then as many cattle should be turned upon it as the crop would maintain; but they should not run all over it at once; if however the Farmer prefers that method, I would by all means advise him to cut down the clover which the cattle refuse on account of its rankness, and he will find that as soon as it is a little withered they will eat it all up, though they would not touch it while it was growing; this should be done by degrees. By this method the land would be better manured than by ploughing it in, besides having a crop of clover hay, of which any practical Farmer will be convinced by a few moments reflection. If he could reconcile himself to keep sows with young pigs upon the clover, as they do in Cheshire, he would reap a much greater benefit by it than by any other method. I must not forget that some soils will not carry two good crops of clover in one year, so as to admit of the latter being fed off in the manner here proposed; and in many places they are strangers to the large broad clover, having only the small red clover, called cow-grass, which does not so easily admit of being mowed twice; all that can be said to this is, that they cannot practise it to so great an advantage, but then they will have a better single crop which will carry a greater stock, and the land will consequently be the better manured. Now let any person compare this husbandry
with

with the other, where the clover must be ploughed in as soon as it is rank enough for the purpose, and the land left for a considerable time to allow the clover time to rot; whereas in my method the stock is constantly upon the land till it is wanted to be ploughed for sowing. Nothing therefore, in my opinion, will justify the practice but absolute necessity, which will very rarely be the case.

There is an inconvenience that attends ploughing in green crops which it is necessary to mention, and that is, their harbouring so many worms, slugs, &c. which will sometimes devour the wheat. Some land is much more subject to them than others, and I have known lime used upon it with success; nay, I know that many of the Farmers, who reside upon the spot that I allude to, make it a constant rule to lime their clover stubbles when they plough them up, on account of the grubs and other such like vermin.

W—shire.

AN OLD FARMER.

P. S. I know some writers tell us, that mowing the clover a second time is better for the land than feeding it off; and I will believe them when it is found from experience that land may be mowed every year without manure; and yet it may be grazed by cows every year without it.

[It was natural for us to dip into the treatise intitled "Winter Riches," by Mr. Peters, because he is the patron of the *Vegetable System of Agriculture*; and if we may judge from his book, he has practised it in the greatest perfection. Our readers, we presume, will not be displeased with the following quotation, (for this book is not in every one's hands) as it completely exhibits the mode of husbandry which Mr. Peters highly extols and recommends.

"Suppose (says he, p. 83) a crop of any sort of corn on a field. In the beginning of October, or rather middle of September, in that year, it is to be ploughed up and sown with rye and barley, or black oats and rye; the end of February, [following] or beginning of March, (as occasion may serve) put in ewes and lambs, and there let them feed, and as many more as the land will feed of wethers: in May, plough this field up, and sow it with cole seed: in July, feed it off by sheep penning, or plough it in; as soon as ploughed, sow turnips or buck wheat, and either pen-feed it off by sheep, or plough it in as before; in either case, plough the ground, and sow it immediately again with another vegetable the end of August; or either of the former may be fed off with hogs.

"Then, in October at farthest, plough it up, and sow wheat in the manner before observed, [that is, ploughed in, and lightly harrowed] and I dare say every rational being will allow, that an acre under a rotation of tillage, cannot be more fully employed or enriched."

It

In page 12, Mr. P. is a little more particular in his instructions: "If (says he) neither of the vegetables mentioned should be wanting for sheep, black cattle, horses, pigs, &c. plough them in for manure, as often as they are here mentioned to be produced, in a rotational change; feeding, or ploughing, in whole or in part, according as they may be wanted."

"Shall I request the man who calls himself a Farmer, to divest himself one moment, and uncover himself from that worn-out, rotten-threaded garment of perverseness; and consider the advantages arising from, first two crops of food, and two manurings with sheep-dung, and only three ploughings. Or, secondly, two manurings of vegetables ploughed in, one growing on the upper surface impatient to be ploughed in, to do its office of putrefaction in the earth (keeping therein all its native salts without evaporating, or exhalations diminishing any of its fertile oily juice) as what was just before ploughed in was doing. Or, thirdly, feed one vegetable crop off, and so manure with the dung of the aiding stock, and plough in the other crop."

What a string of absurdities!—Who can blame Farmers for their aversion to *Books*?—but the reader will be at no loss to judge for himself.]

ARTICLE XVIII.

Curious Account of the Horses in different Countries.

From BUFFON'S Natural History. [Concluded.]

"THERE are in Turkey Arabian horses, Tartar horses, and horses of the native breed of the country: these last are handsome, and very slender; full of velocity, remarkably swift, and even graceful; but too tender to bear much fatigue: they eat little, are soon heated, and their skin is so sensible that they cannot bear a curry-comb; for which reason they are only rubbed with a cloth, and washed. These horses, though handsome, are, we see, greatly inferior to the Arabians: they are even inferior to the Persian horses, which are, next to those of Arabia, the best and most beautiful of any in the East. The pastures in the plains of Media, Persopolis, Ardebil, and Derbent, are admirably fine, and a prodigious number of horses are reared there, by order of government, most of which are very beautiful, and almost all of them excellent. Pietro della Valle prefers the common horses of Persia to those of Italy, and even to the most valuable horses of the kingdom of Naples. They are generally of a middle size, and some even very small, which are not for that the less good and strong: but there are also many of a good

a good size, and even larger than the English saddle-horses. They have all a slender head, a fine neck, and a narrow chest; the ears well shaped and well placed, the legs slender; the rump well turned, and a hard hoof: they are docile, sprightly, agile, spirited, courageous, and capable of enduring great fatigue. They run extremely swift, without ever falling or stumbling; they are robust and very easily fed, barley mixed with fine chopped straw being their only food, which is given them in bags tied to their heads; and six weeks in spring is all the time they are out at grass. Their tails are never cut; geldings are not known among them; cloths are laid over them to prevent their receiving any injury from the air; they are rode only with a snaffle bridle, and no spur; and great numbers of them are transported into Turkey, and still more into the Indies. Travellers, who all speak highly of the Persian horses, agree however in saying, that those of Arabia are superior to them in agility, courage, strength, and even beauty; and that the Persians themselves set a much higher value on them, than on the finest horses of their own country.

“ The native horses of India are not good. Those made use of by the great men of the country, have been carried thither from Persia and Arabia. In the day-time a little hay is given them, and in the evening boiled pease, mixed with sugar and butter, instead of oats or barley. This food supports them, and gives them some strength; for otherwise they would soon waste away, the climate being contrary to their nature. The native horses of the country are, in general, very small; some of them even so little, that, if Tavernier may be credited, the young Mogul Prince, who was between seven and eight years of age, usually rode a horse very well shaped, but not bigger than a large greyhound.

“ Excessively hot climates seem not to agree with horses; as a proof of which, those of the Gold Coast, of Indus, of Guinea, &c. are, like the Indian horses, very bad. They carry their head and neck remarkably low, and totter so greatly in their goings, that one thinks them always ready to fall; they will not stir without continual beating, and most of them are so very low, that the rider's feet almost touch the ground: they are besides very untractable, and indeed fit only to feed negroes, who like their flesh as well as they do that of dogs. Thus we see that the love of horse-flesh is common to the negroes and Arabians: it is likewise so in Tartary, and even in China.

“ The Chinese horses are not better than those of the Indies: they are weak, spiritless, ill-shaped, and very small: those of Corea are but three feet high. The Chinese castrate
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most of their horses; and they are so timid, that they cannot be used in war: accordingly it may be said, that it was the Tartarian horses that conquered China. These last are indeed very fit for war; for though they are generally but of the middle size, they are strong, vigorous, spirited, bold, light, and great runners: their hoof is hard, but too narrow; the head very airy, but too small; the neck long and stiff, and the legs too high: yet with all these defects they may be accounted very good horses; being indefatigable, and exceedingly swift. The Tartars live with their horses nearly in the same manner as the Arabians. When they are seven or eight months old, they put boys on their backs, to walk them about, and gallop them at short intervals. They train them up thus by little and little, and inure them to very short diet; but never mount them for an expedition till they are six or seven years old, and then they are made to endure incredible fatigues, such as marching two or three days without halting, being four or five without any other nourishment than a handful of grass, and at the same time twenty-four hours without drinking, &c. But these horses, which seem, and which are in fact, so robust in their own country, soon fall away to nothing when carried to China or the Indies; though they thrive pretty well in Persia and Turkey.

“The inhabitants of Little Tartary have also a small breed of horses, which they value so greatly that they never suffer them to be sold to strangers. These horses have all the good and bad qualities of those of Great Tartary; which proves how far the same usage, and the same manner of bringing up these animals, impart to them the same dispositions and temper. There are likewise in Circassia and Mingrelia numbers of horses which are even handsomer than those of Tartary; and tolerably fine horses are also found in the Ukraine, Walachia, Poland, and Sweden; but particular observations have not yet been made on their good qualities and defects.

“Now, if we consult the antients with regard to the nature and qualities of horses of different countries, we shall find, that the Grecian horses, and especially those of Thessaly and Epirus, were in repute, and very good for war; that those of Achaia were the largest then known; that the handsomest of all were those of Egypt, where they were very numerous, and where Solomon purchased great numbers at very high prices; that horses throve badly in Ethiopia, on account of the too great heat of the climate; that Arabia and Africa furnished the best-made horses, and especially the swiftest and fittest for the saddle or the race; that those of Italy, and particularly

ticularly of Apulia, were also very good ; that in Sicily, Capadocia, Syria, Armenia, Media, and Persia, there were excellent horses, estimable for their agility and swiftness ; that those of Sardinia and Corsica were small, but spirited and bold ; that those of Spain resembled the Parthian horses, and were excellent for war ; that the Transylvanian and Walachian horses had small well-shaped heads, manes reaching down to the ground, bushy tails, and were very fleet ; that the Danish horses were well made, and good leapers ; that those of Scandinavia were small, but well moulded, and very nimble ; that the Flemish horses were strong ; that the Gauls furnished the Romans with good horses for the saddle, and for carrying burthens ; that the German horses were ill-shaped, and so bad as to be of no use ; that the Swiss had great numbers of horses, and very good ones for war ; that the Hungarian horses were also very good ; and lastly, that the Indian horses were very small and very weak.

“ It results from all these facts, that the Arabian horses have ever been, and that they still are, the first in the world, as well for beauty as for goodness ; that it is from them, either immediately, or mediately by the means of Barbs, that the finest horses in Europe, Africa, and Asia, are procured ; that the climate of Arabia is, perhaps, the true climate for horses, and the best of all climates for them ; since instead of crossing there the native breeds by foreign breeds, great care is taken to preserve them entirely pure ; that if that climate is not in itself the best for horses, the Arabians have rendered it such by their particular attention in all times to ennoble the breed, by putting together only such individuals as were the best shaped, and of the first rank ; that by an unremitted continuance of this care for several ages, they may have brought the species to a degree of perfection beyond what nature would have done in the best climate. We may also conclude from the above, that those climates which are rather hot than cold, and especially where the soil is dry, are the best suited to the nature of these animals ; that, in general, small horses are better than large ; that care is not less necessary to them all than food ; that with familiarity and caresses one may obtain much more of them than by force and punishment ; that in horses of hot countries, the bones, the hoofs, and the muscles, are much harder than in those of our climates ; that though heat agrees with these animals better than cold, yet excessive heat does not suit them ; that great cold is likewise hurtful to them ; in fine, that their constitution and temper depend almost entirely on the climate, the food, the care taken of them, and the manner of bringing them up.”

P O E T R Y.

FAMILIAR STANZAS on the
FLOWER-GARDEN.

THE Snow-drop ushers in the year,
With soft declining head;
Its hue does innocence declare,
With guiltless white o'erspread.

The Crocus rears its yellow head,
But just above the ground;
In various pleasing clusters spread,
In early spring 'tis found.

Close in the hedge the Primrose view,
As modestly retir'd;
Yet, from its sweet and pleasing hue,
It's sought, and is admir'd.

If beauty can attention draw,
Or charms can pleasure give;
Who hath a Polyanthus *saw*,
Must greatest praises give.

See where that hedge extends a shade,
Along the green-wood's side,
Then see a-down the bank display'd
The Violet's purple pride.

Sleepy by nature, see it blow,
And blown, its head decline;
In vain o'er th' Poppy sun-beams glow,
In vain they brightly shine!

To view the Honeyfuckle haste,—
A pretty flower you'll see;
'Tis sweet in smell, and sweet in taste,
As gard'ners all agree.

Come now, Sweet-william, sweetest
flower,
That gardens can adorn;
Sweet after ev'ry brushing shower,
Sweet with the dew of morn.

The Larkspurs usually unite,
And friendly grow together;
To give to all a vast delight,
In fine and pleasant weather.

How pleasing is the Jessamine,
Tho' simple to the view,
Yet sure its scent's exceeding fine,
And pleasing is its hue.

This flower 's of a double hue,
And Heart's-ease is its name;
One part is yellow, t'other-blue,
But eminent its fame.

The florist still with pride and care,
Th' Auricula attends;
The finest 'tis his pride to rear,
To please himself and friends.

This is a lovely flower you see,
'Tis yellow, blue, or red;
It is the bright Anemone,
And wide its leaves are spread.

In variegated charms array'd,
Th' Ranunculus does shine;
Tho' low the bed wherein its made,
It makes the garden fine.

The Holly-hock doth tow'ring rise
All noble to the view;
Delighting florists curious eyes,
With lovely crimson hue.

Aloft high tow'ring to the skies,
The Sun-flower behold;
With conscious pride she seems to rise,
With leaves like burnish'd gold.

The Hyacinth, with pretty bells,
Is in the garden seen;
Yet with the greatest pleasure dwells
All wild upon the green.

In fields and groves, to make a posy,
This simple blossom's found;
'Tis light in make, in colour rosy,
And like a Button* round.

Tho' no great beauty Thrift can boast,
In borders chiefly spread;
When other's beauty's gone and lost,
It lifts its little head.

Lovely blooms the Daisy fair,
Simple flow'ret of the plain;
Ev'ry little miss's care,
Gather'd by each little swain.

In beauteous bloom and fragrant smell,
The Rose may justly boast,
Most other flowers to excel,
And is the gard'ner's toast.

The modest Lilly of the Vale,
Just shews its snowy head;
Yet where it grows sweet scents prevail,
And odours round it spread.

Behold the gaudy Tulip rise,
In dress how gay and smart;
It captivates the longing eyes,
But cannot win the heart.

Sweet as the sweetest breath of May,
And lovely to the sight,
The Gilly-flower appears most gay,
With leaves like crimson bright.

Upon the pretty Daffodil,
Drest in a yellow coat,
The damsels of the dale and hill
With youthful fondness doat.

* Bachelor's Button.

Amidst

Amidst the spreading high flag leaves,
The Fleur-de-Lys behold;
The flower a bluish tint receives
From nature's fertile mould.
Among the garden's lovely race,
This simple herb behold;
With care the country housewives trace
The useful Marygold.
In every pretty maiden's breast,
How pleasing the Jonquil;
If you are always good confest,
Have that, or what you will.
The Lilac holds its head on high,
In a white garment dress;
Or proudly soars towards the sky,
Clad in a purple vest.
The Pinks, how pretty and how neat,
In an assembl'd throng;
They seem to claim, in modest state,
The florist's artless song.
Carnations, with their double leaves,
Bloom charming to the sight;
The sense a fragrant gale receives,
And revels in delight.
Sacred to Christ, the Passion-flower ap-
Who died to save mankind; [pears,
To free the world from endless fears,
And painful chains unbind.
May every garden deck'd by thee,
An useful lesson teach;
May flowers instructive preachers be,
Without the use of speech.
Display'd before each Christian's eyes,
And as a token meant,
May'st thou bid solemn thoughts arise,
Of what ye represent.

HYMEN and POMONA.

PERHAPS 'tis true, what wittlings
urge,
"That needful thing, a wife,
"As often proves the plague and scourge
"As comfort of one's life."
For Marriage is an orchard fair,
And various fruits produces,
Of sour and sweet, of joy and care,
Like Autumn's various juices.
When forward girls and amorous boys
The sweets of love betray;

How soon the luscious, transient joys,
Like Summer fruits decay!
Let minds in judgment grown mature,
In Hymen's bands engage;
Such loves the Winter will endure,
And mellow grow by age.
Look round you well before you wed,
With caution make your choice;
By no fond whim or passion led,
Attend to Reason's voice.
The nymph that's beautiful and gay,
Rich, generous, sweet and mild,
If such there be, such surely may
Be Golden Pippins styl'd.
Some, proud of sense and ill-bred wit,
Are harsh as Coccagee;
Such fruit may be for grinding fit,
But eat who will for me.
The rural lass with ruddy cheeks,
The Redstreak we may name;
Whose luscious, wholesome juice be-
speaks
The soil from whence * she came.
Some dames the John-apple may suit;
Like shrivel'd parchment dried:
But some men choose such lasting fruit,
Nor envy such their bride.
Others, like pears, look sweet, & smile
On every pretty fellow:
Too early ripe, they please awhile;
But soon they grow too mellow.
Your forward sour, ungracious shrews
Make housewif'ry their boast!
Like Rustetines, fit sauce for goose!
And there they rule the roast.
Mark where good sense and sweetness
And truth without disguise; [dwell,
The man that finds this Non-pareil,
Has surely gain'd a prize.
The royal † Wilding—tho' it grows
Neglected in our fields;
Yet manag'd well, the Artist knows
The noblest liquor yields.
Then let not rakes blaspheme the Fair,
For wedlock's wild abuses;
When ev'n from Crabs one may with care
Extract delicious juices.

* Herefordshire.

† The famous Devonshire fruit.

C O R R E S P O N D E N C E.

ON account of the indisposition of the Gentleman who favours us with the Review of Books, the whole was not finished in time, and we did not chuse to insert it in a mutilated or unfinished state; but it will certainly appear in our next, with an account of Rural Improvements, the Farmer's Directory; Essays on Agriculture, and the Philosophical Transactions, with a great number of practical remarks.

Mr. Williamson's Remarks—R—k from Ilminster—Lucinda, &c. &c. will have due attention paid.—Fabius Picior is referred to the article ANIMALCULX in the Dictionary for this month.—Other articles promised will be inserted as soon as possible.

Answer to the New Queries for the Farmers' Sons, in the Magazine for May, p. 76.

Mr. SYLVAN,

IF the grains of wheat be planted four ^{inches} ~~inches~~ asunder every way, the number of grains required to plant an acre will be 393,293, or, 6 gallons, 3 pounds, 2 ounces, 10 pennyweights, and 13 grains.

If they are to be planted six ~~inches~~ asunder, then the number of grains will amount only to 175,075, or, 2 gallons, 6 pounds, 9 ounces, 11 pennyweights, and 3 grains.

July 20, 1776.

P. J.

[It appears from these calculations that if the method of planting wheat was adopted throughout the kingdom, the saving would be immense in a national view.]

ABSTRACT of the new ACT for the RELIEF of DEBTORS, and of BANKRUPTS in CERTAIN CASES.

THIS act extends itself only to persons who are not indebted to any one creditor in a greater sum than 100*l*. and who shall surrender up, on oath, all their property and effects for the benefit of their creditors in general; after which, their persons, and the personal effects which they may in future acquire, are to be for ever free from all claim or demands, on account of debts contracted before the 22d day of January 1776; but all future acquisitions of real property or money in the funds, are subjected to the claims of their several creditors.

Those entitled to the benefit of this act are,

I. Persons arrested for debt, and held to bail, on or before the first day of January last who shall surrender themselves to prison, on or before the twenty-sixth day of June next.

II. Persons who were arrested for debt, on or before the twenty-second day of January last, and have remained ever since in the actual custody of the keeper of one of his Majesty's prisons; crown debtors excepted.

III. Fugitives for debt, who were actually beyond sea on the twenty-second day of January last, and who shall surrender themselves, within fourteen days next immediately after their landing in England to the keeper of the King's Bench, Marshalsea, or Fleet-prisons, or to the keeper of the prison of any district in which they last dwelt, for the space of six months before they absconded. But no discharge can be granted to fugitives after the first day of August 1778.

IV. Commission, or warrant officers, in his Majesty's sea, or land service, now upon the full, or half pay list, who for fear of arrests have taken shelter in privileged places, or who have been thrown into jail, and are not under the description of those persons who can take benefit by the other provisions of this act, are to be considered as fugitives, and equally intitled to the benefit of this act, provided they surrender themselves on or before the twenty-sixth day of June next, to the keeper of any of his Majesty's prisons, in the manner prescribed for fugitive debtors returning from foreign parts.

V. Persons against whom commissions of bankruptcy have been issued, on or before the twenty-second day of January last, and who are now in prison for debt only, (not for contumacy) or who are now secreting themselves in fear of their creditors; or persons who were in prison for debt

debt on the twenty-second day of January last, and against whom commissions of bankruptcy have been since awarded, may summon their plaintiffs before one of the judges of the court wherein the process issued, on which they are or may be detained, or (if such judge live at a distance) before any justice of the peace; and the plaintiffs not appearing, and not proving that such bankrupts have concealed any part of their estate or effects, or have not duly conformed themselves to the laws now in force against bankrupts, such judge or justice shall discharge them on their taking an oath that the cause of the action arose previous to the issuing of the commission against them, and causing a common appearance to be entered for them, where necessary, in every such suit.

VI. Bankrupts against whom commissions have been issued, on or before the twenty-second day of January last, having fully conformed to the bankrupt laws now in being, and not having been committed to prison for any act of contumacy, &c. may, if their creditors persist in refusing their certificates, after the expiration of twelve months, apply to the Lord Chancellor, who, on the report of the commissioners, has a discretionary power to order an advertisement to be inserted in the Gazette for the allowance of the certificates of such bankrupts in the same manner as if signed by four-fifths in number and value of their creditors.

[Nearly the same forms respecting the mode of receiving the benefit of this act are to be observed as in former acts of insolvency. Schedules of the estate and effects, real and personal, of every debtor are to be delivered to the gaoler, and a copy thereof by him to every creditor who may desire it. These schedules are to be attested by the debtors (when they are brought before the Justices for their discharge) to contain a discovery of the *whole* of their effects; and insolvents convicted of perjury are to be adjudged as felons, and to suffer death without benefit of clergy.]

The estate and effects of prisoners upon their discharge to be vested in the clerks of the peace, and their successors, who are to make over the same to the assignees (to be named by the court) who are empowered to sue in their own names for insolvent's estate, or execute any trust or power for the prisoner, whose real estate they are to make sale of, and make a dividend of the purchase money within three months, first making up their accounts and verifying them upon oath.

Thirty days notice to be given of making a dividend; and the surplus, if any, of the insolvent's estate to be paid to him.

No assignment of the insolvent can affect prior mortgages; and the power in prisoners of leasing lands are to be vested in the assignees.

Fugitives intending to surrender, and previously arrested, are not thereby excluded from the benefit of this act.

But persons who have defrauded their creditors, by taking up goods, money, or securities, under false pretences, are positively excluded from any benefit. Those also are excepted who shall be found to have sold or assigned any part of their property with intent to defraud their creditors.

The discharge of a prisoner is no acquittal to his partners or sureties.

Goalers making false entries in their prison books or lists, to forfeit goal. with treble costs.

Every creditor has a right to demand an interview with his debtor in prison, who if he shall refuse to tell the name and abode of the person at whose suit he is detained, shall be excluded the benefit of this act.

Every creditor who shall oppose a prisoner's discharge, shall allow the prisoner 3s. 6d. or 4s. per week; in default of which, for one fortnight, he may obtain a discharge.

Persons

Persons owing more than 1000*l.* to one person, may obtain the benefit of this act, if they can procure such creditor's consent. Or if the debt was incurred by being security for others, and no part of the money or property obtained on that security applied to their own use.

Twenty per cent. is allowed for the discovery of any part of an insolvent's estate, not set forth in the schedule delivered, and persons convicted of concealing any part of an insolvent's estate, are to forfeit 100*l.* with double the value of the estate or effects. — Discharges fraudulently obtained are declared to be void to all intents and purposes. — Where mutual credit has been given, the balance is to be stated and allowed.

Prisoners on process out of courts of conscience are to have the benefit of this act — also persons confined only for their fees.

But persons who have taken the benefit of an Insolvent Act within eight years cannot receive any benefit from this act; unless they can produce a certificate signed by a proper officer, setting forth that they are enlisted to serve in his Majesty's sea or land service.

This act is not extended to Scotland.

SUBSTANCE of the new ACT for preventing DEER-STEALING, and repealing several former Statutes.

UNQUALIFIED persons who shall hunt, course, &c. or take in any snare, &c. or kill, wound, shoot at, or carry away any red or fallow deer, or attempt so to do, in any forest, chase, &c. inclosed or not, or in any inclosed park, paddock, &c. where deer are usually kept, or shall be aiding therein, shall forfeit twenty pounds; and every person offending as above shall forfeit, for every deer so killed, &c. thirty pounds; and if the offender be a deer-keeper where the offence is committed, he shall forfeit double; the second offence is transportation for seven years.

Persons convicted under former acts (before the commencement of this act) are still liable to the penalties therein inflicted; and if such person shall be afterwards convicted on this act, it shall be deemed a second offence.

Persons in whose custody any deer, heads, skins, &c. thereof, shall be found, shall forfeit not more than thirty pounds, nor less than ten pounds.

If any person shall have deer, heads, &c. thereof, found in his custody, and yet cannot be convicted, the justice may summon every person through whose hands such deer, &c. shall appear to have passed; and if the person from whom such deer, &c. was first received, cannot prove he came lawfully by them, they shall forfeit as in the preceding clause.

Persons suspected of having had deer, &c. in their custody, on conviction, to forfeit the same.

Persons convicted of setting nets, wires, &c. for taking deer in any forest, &c. shall forfeit for the first offence not more than ten pounds, nor less than five pounds.

Persons pulling down pales, walls, &c. of any forest, &c. shall be subject to the forfeiture for the first offence of killing deer.

Persons carrying fire arms, &c. in any forest, &c. with intent to destroy deer, the keeper may take them from them, together with dogs, nets, &c. and persons beating or wounding a keeper, or attempting a rescue, shall be transported for seven years.

Justices may take bail for payment of penalties for six days.

Keepers of forests, parks, &c. may apprehend offenders against this act.

This act took place on the 10th of June 1776.

The statutes of which parts are repealed are 13 Rich. II. 19 Hen. VII. 5 Eliz. 3 Jac. I. 13 Car. II. 3 and 4 Gul. and Mary, 5 Geo. I. 10 Geo. II.

The Farmer's Magazine,

A N D

Useful FAMILY COMPANION:

NUMBER V. (for August 1776,) Price 6d.

Embellished with a Copper-Plate of the STOP-TROUGH to prevent foetid Smells arising from Drains, Night-Closets, &c. and an improved Method of making HARROW TINES to cover the Seed.

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To which is added, A GENERAL DICTIONARY of Husbandry, Planting, Gardening, and the Vegetable Part of the *Materia Medica*: Containing a great Variety of new and useful matter, with many *original* Articles.

By AGRICOLA SYLVAN, Gentleman.

Printed for W. GOLDSMITH, No. 24, in Paternoster-Row;

And R. CRUTTWELL, in BATH;

And sold by every Bookseller, Stationer, and News-Carrier, in the Kingdom.

Average PRICES of CORN, from AUG. 12 to AUG. 17.

By the Standard Winchester Bushel of Eight Gallons.

Wheat Rye Barley Oats Beans						COUNTIES upon the EAST.					
s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	Essex	4	2	3	0	2
London	4	4	3	0	2	Suffolk	4	1	3	3	2
						Norfolk	4	2	2	10	2
						Lincoln	4	4	3	9	2
						York	4	9	3	3	2
						Durham	4	1	3	4	1
						Northumb.	4	6	3	4	2
						Cumberland	4	11	3	7	2
						Westmorel.	5	3	3	11	2
						Lancashire	5	5	5	2	9
						Cheshire	5	2	2	1	10
						Monmouth	5	2	2	7	2
						Somerset	4	11	3	3	2
						Devon	5	9	2	9	1
						Cornwall	5	4	2	6	1
						Dorset	4	2	2	4	2
						Hampshire	4	5	2	7	2
						Suffex	4	3	2	6	2
						Kent	4	6	2	9	2
						From Aug. 5, to Aug. 10, 1776.					
						WALES.					
						No. Wales	5	5	3	10	2
						So. Wales	5	3	4	0	3
						Part of SCOTLAND.					
						Wheat Rye Barley Oats Beans Big	4	1	—	1	11
										1	10
										2	3

The ASSIZE of BREAD, as set by the Lord-Mayor of London, Tuesday, Aug. 13th.

lb. oz. dr.	lb. oz. dr.
The Penny Loaf, Wheat, 0 11 9	
Household, 0 15 7	
Two-penny Loaf, Wheat, 1 7 3	
Household, 1 14 4	
Three-penny Loaf, Wheat, 2 2 12	
Household, 2 14 5	
To weigh, To be sold for,	
lb. oz. dr.	s. d.
The Peck, 17 6 0	Wheat, 2 0
	Household, 1 6
Half Peck, 8 11 0	Wheat, 1 0
	Household, 0 9
Quatern, 4 3 8	Wheat, 0 6
	Household, 0 4½

PRICES of STOCKS.

Bank Stock, 139 ¾.	India Stock, 164 ½.	South Sea, —.	3 per cent B. Red. 84 ½ a ½.	3 per cent Conf. 83 ½ a ½.	3 ditto, 1726, 81 ¾ a ½.	3½ per cent 1758, —.	4 per cent Con. 87 ½ a ½.	Old S. S. Ann. —.	New ditto, Ann. 89 ¾.	3 per cent. 1753, 82 ½.	India Ann. 79.	Long Ann. 25 ½ a ½.	India Bonds, 32 a 40 pr.	New Navy Bills, 2½ dif.	Omnium, —.	Scrip. 84 ½.	Lottery Tickets, 111. 143.
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Price of Hops in the Borough.

New Pockets, —	4l. oos. to 4l. oos.
New Bags, —	2l. oos. to 3l. oos.
Old Pockets, —	2l. 10s. to 4l. oos.
Old Bags, —	1l. 5s. to 1l. 16s.

PRICE of CORN at MARK-LANE. Monday, Aug. 26.

Wheat, per quarter,	31s to 37s od
Barley, —	16s to 21s od
Rye, —	23s to 24s od
Brown Malt, —	23s to 26s od
Pale ditto, —	23s to 28s od
Oats, —	12s to 17s 6d
Essex Beans, —	24s to 26s od
Tick, —	26s to 28s od
Boiling Pease, —	34s to 35s od
Hog ditto, —	24s to 26s od
Tares, —	24s to 30s od
Fine Flour, per Sack, —	30s
Second ditto, —	26s
Third ditto, —	23s

Return of the Sale of Wheat at Bear-Key, on the above day.

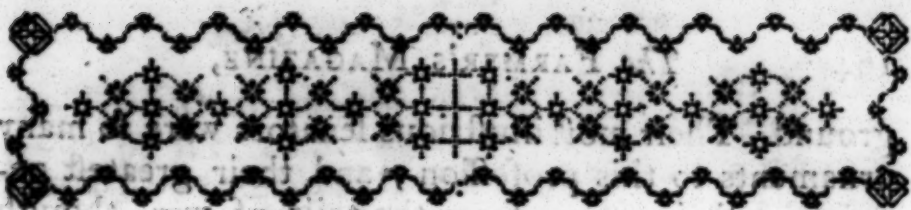
120 Q. at 36s. 6d.	43 Q. at 34s. 6d.
346 do. at 36s. od.	96 do. at 33s. 6d.
58 do. at 35s. 6d.	17 do. at 33s. od.
536 do. at 35s. od.	10 do. at 32s. 6d.
100 do. at 34s. od.	

WHITECHAPEL.

Hay, 3l. 15s. to 4l. 1s. ½ Lead.	
Straw, 1l. 9s. to 1l. 19s. ½ Ton.	

SMITHFIELD-MARKET.

Beef, per stone, 2s. 8d.	
Veal, —	3s. od.
Mutton, —	3s. od.
Lamb, —	3s. od.



T H E

FARMER'S MAGAZINE.

A DISSERTATION on the Progress and present State of AGRICULTURE; with a concise Account of the best English Writers on the subject. [Continued.]

THE Etruscans settled in Etruria, of which Italy was part, soon after the deluge; they were the posterity of Javan, one of the sons of Japhet. They introduced into Italy, agriculture, the planting of vines, and all the different implements of husbandry. Being extremely well versed in all the arts of war and peace, the Romans learned from them those arts and sciences that paved the way to the empire of the world.

Numa Pompilius, who was elected king about 40 years after Rome was built, parcelled out the lands of the state, and distributed them into Pagi or villages, each of which had a chief, whose business was to keep an eye over the husbandmen, to encourage the diligent, and punish the slothful, and report the progress of agriculture to the king, who frequently advanced the industrious to the first dignities in the state. By this means the lands were cultivated, and the city disburthened of the idle soldiery, who had been accustomed under Romulus to live by rapine.

In the earliest times of the republic, the Romans esteemed agriculture to be an employment so honourable, that their highest encomium bestowed on a man was to say, he cultivated well his own spot of ground.

ground. Their most illustrious senators were so many ornaments to this profession; and their greatest generals at their return from the toils of war, though crowned with conquest by subduing kingdoms, were yet impatient to be again employed in cultivating their lands; where, it must be observed, they were equally well respected as when they were seated in the consular chair. The deputies who were sent to Q. Cincinnatus found him at plough; and when he left his wife he recommended his domestic affairs to her in these words, "I am afraid, my dear Racilia, that our fields will be but ill manured this year."

T. Sempronius Gracchus, tribune of the Commons, on the death of king Attalus who left the Roman Senate his heir, preferred a law which ordained that all the ready money found in the king's treasury should be bestowed on the poorer citizens, to supply them with implements and other conveniences required for agriculture.

Their Agrarian laws were such as were made for dividing conquered lands among all the Roman citizens, and limiting the number of acres possessed by each. Cassius, who proposed this law, was thrown headlong from the Tarpeian Rock.

Historians observe, that Rome was no sooner at peace with foreign enemies, but her own subjects began to be dissatisfied.

Cato, who afterwards destroyed himself, was an implacable enemy to Carthage. He generally, and towards the last always concluded his speeches in the senate with "Delenda est Carthago,"—Carthage must be destroyed. He was often opposed by Scipio Nafica, who justly foretold, that, upon the removal of so powerful a rival, security would cause the ruin and dissolution of the Commonwealth.

The ruin of Carthage having taken away all fear, and the Asiatic expeditions and triumphs brought in excess and riot, the Romans began daily to degenerate

rate from their ancient modesty, plainness, and severity of life, addicting themselves more and more to pleasure and luxury, and employed their slaves in the severer labours of a country life. But though men of consular dignity did not themselves hold the plough, yet it was considered as a reward for their public services, when they obtained leave to retire into the country to overlook their farms.

When Augustus began his reign the Empire of Rome was at its greatest extent; it comprehended the greatest and by far the best part of the then known world. The annual revenues, by a modest calculation, amounted to forty millions of our money. But the Romans themselves had nothing left of the noble spirit and manly virtues of their ancestors, but were sunk in luxury and effeminacy.

The people who had been wont to direct mighty wars, to raise or depose the greatest kings, and to bestow and take away vast empires, were now so lost to all sense of greatness, that if they had but bread and shews, their ambition went no higher. The nobility, more learned indeed and more polite than in former ages, were grown idle, venal, vicious; insensible of private virtues, utter strangers to public glory or disgrace; void of zeal for the welfare of their country, and solely intent on gaining the favour of their Prince, as knowing that certain wealth and preferment were the rewards of ready submission, acquiescence, and flattery.

Oh Luxury! thou soft, but sure deceit!
 Rise of the mean, and ruin of the great!
 Thou sure presage of ill approaching fates!
 The bane of empires, and the change of states!
 Armies in vain resist thy mighty pow'r;
 Not plagues, or famine could confound them more.
 Thus *Rome* herself, while o'er the world she flew,
 And did, by virtue, all the world subdue,
 Was by her own victorious arms oppress'd,
 And catch'd infection from the conquer'd *East*;
 Whence all those vices came, which soon devour
 The best foundations of renown and pow'r.

When

When the Empire was divided into four parts, each sovereign wanted to have as many officers both civil and military, and the same number of forces, as when the state was governed by one Emperor: there being so many more soldiers to pay, the taxes and imposts were greatly increased, the provinces reduced to beggary, and the lands left untilld for want of hands.

Agriculture was so much neglected after the destruction of Carthage and the introduction of Asiatic luxuries, that a fleet was employed to fetch corn from Egypt. Commodus, wicked and infamous as he was, deserves great commendation for his establishing a company of merchants and a fleet for conveying corn from Africa to Rome, when any misfortune should befall the other fleet that transported it from Egypt.

Theodosius, after the death of Count Theodosius his father, withdrew to Spain, where he led a retired life, employing his time partly in reading and partly in agriculture, till he was recalled by Gratian and declared Emperor. The Romans being threatened with a famine on account of the failing of the crops in Africa, he sent great plenty of grain to Rome from Egypt and Macedon. Afterwards, when corn was not suffered to be transported from Africa, the Romans were obliged to eat chesnuts; for, on account of the wars, the lands in Italy were sometimes untilld for several years.

Probus, by some stiled a second Hannibal, to prevent his soldiers being idle, employed them in planting vines on the hills of Gaul, Pannonia, and Mæsia; at the same time allowing the inhabitants of those countries, as well as the Spaniards and Britons, to cultivate as many vineyards as they pleased, which had been denied them ever since the time of Domitian.

Though ambition was long the reigning passion of the Romans, they were far from being inattentive to

to their interests, but studied how to gain wealth, as well as glory, by their conquests. When nations first submitted to their authority, they often obliged them to pay a certain stipulated sum of money, or quantity of corn annually, by way of tribute, leaving them for some time in the possession of their other privileges; and these nations were called tributaries. Thus Julius Cæsar imposed a certain annual tribute on the British state, which made their submissions to him, though he has not mentioned either the nature or quantity of that tribute. But the Romans did not commonly continue long to treat those nations which had submitted to them with this indulgence; for, on one pretence or other, they soon reduced them into provinces, and subjected them to a great variety of taxations, which were levied with much severity. To this state were the British nations reduced by the Emperor Claudius and his successors, which makes it necessary to give a brief account of some of the chief taxes which the Romans imposed upon their provinces, and particularly on this island.

One of the chief taxes which the Romans imposed on their provincial subjects, was a certain proportion of the produce of all their arable lands, which may not improperly be called a land-tax. This proportion varied at different times, and in different places, from the fifth part to the twentieth, though the most common proportion was the tenth. This tax was imposed upon the people of Britain, with this additional hardship, that the farmers were obliged by the publicans to carry their tithe-corn to a great distance, or to pay them some bribe, to be excused from that trouble. This great abuse was rectified by Agricola, though the tax itself was still exacted and even augmented. When the Romans had occasion for corn to supply the city of Rome or their armies, this tax was levied in kind; but when they had not, it was paid in money, according to a certain fixed rate.

They

They exacted a still higher proportion, commonly a fifth part, of the produce of orchards, perhaps because less labour was required in their cultivation. The product of this land-tax became so great in Britain, by the improvements that were made in agriculture, that it not only supplied all the Roman troops in this island with corn, but afforded a considerable surplus for exportation.

The Romans also imposed a tax, in all the provinces of their empire, on pasture grounds, or rather on the cattle that grazed in them. This tax was called *Scriptura* (the writing) because the collectors of it visited all the pastures, and took an exact list of all the cattle of different kinds in writing, and demanded a certain sum for each beast according to an established rate. This tax proved very oppressive to the Britons, when it was first imposed by the emperor Claudius, and for some time after. For, as they abounded in cattle, it amounted to a great sum, and being destitute of money to pay the tax, they were obliged either to sell some of their cattle at a disadvantage, or to borrow money from the wealthy Romans at an exorbitant interest. The famous Seneca alone is said to have lent the distressed Britons, on this occasion, the prodigious sum of three hundred and twenty thousand pounds; and, that his demanding it with rigour, at a time when they were not able to pay, pushed them on, among other things, to the great revolt under Boadicea. This tax was sometimes taken in kind, when they wanted cattle for their armies. Nor were meadows exempted from taxation; for a certain proportion of their produce (most probably the tenth) was exacted, in order to provide forage for the cavalry.

[To be continued in our next.]



Fig. 1. A Stop-Trough.

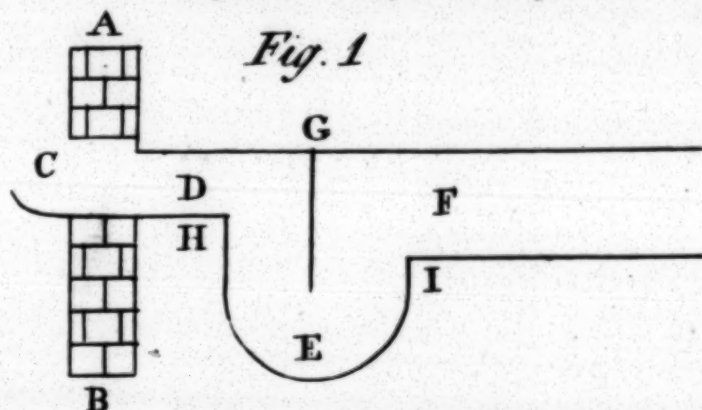


Fig. 2

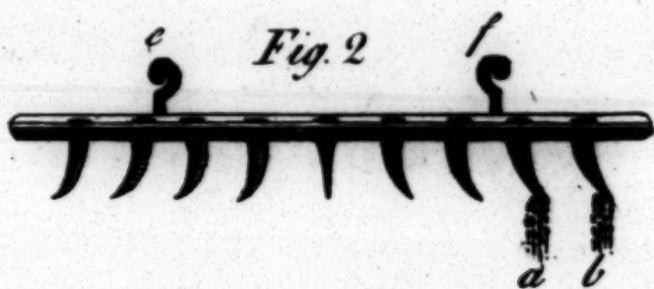


Fig. 3

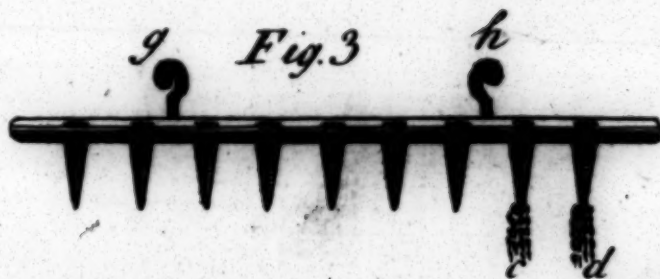


Fig. 2, 3. New Method of placing the tines in Harrows.

Engraved for the Farmers Magazine.

ARTICLE II.

The Use of the Stop-Trough to prevent fetid Smells from Drains; and a new Method of making Tines for Harrows to cover the Seed when newly sown.

[With a COPPER-PLATE.]

THE foetid smell arising from liquor which is thrown into the kitchen or the scullery drains, &c. is well known to be sometimes extremely disagreeable. In warm weather it not uncommonly extends itself to the other parts of the house, so that many good rooms are at those times scarcely habitable. The engraved Figure 1, is the section of a stop-trough to prevent the putrid effluvia from returning back through the drain into the room from whence the liquor is poured down. Nothing can be more simple, or better contrived to answer this purpose.

A, B, is a part of the kitchen wall; C, the place where the liquor is poured into the drain D; at a little distance from the wall is fixed a cistern E, one side of which, as at I, is somewhat lower than the other side at H: at G is fixed a thin piece of stone or tile, that reaches below the corner I, but not to the bottom of the cistern E.

Now it is evident, that if the water be poured in at C, it will run into the cistern E, and under the tile G, and out again at I, (being lower than H) into the drain F; and any disagreeable liquor which may remain in the cistern, may be washed out at pleasure by pouring down fresh water. As the tile G dips into the water below I, it effectually prevents every kind of smell returning back through the drain.

This principle of the stop-trough has likewise been happily introduced into night-closets.

The stop-trough may be successfully applied in the drains for ice-houses, to prevent the regress of the warm external air in long drains, which not unfrequently dissolves the ice in spite of all other care taken to prevent it.

Having mentioned ice-houses, we cannot well avoid taking notice of the too liberal admixture of salt, or saltpetre, with the ice to promote its congealing more forcibly. Nothing surely can be more improper; for these salts will freely dissolve both ice and snow. It is acknowledged, that they add a sensible degree of coldness to the water; but then they at the same time prevent its freezing. Sea water will not freeze till it has deposited its salt; and navigators well know, that

those mountains of ice in the most northern climates are quite fresh.

There is another fault too generally committed in building ice-houses, which is, making them too large; this will strikingly occur from a transient reflection on the real but limited use and design of an ice-house.

Figure 2, shews a much better method of making the tines in a common harrow. The tines being a little crooked at the points, some towards the right hand, and some towards the left, as in the figure, will pulverize more earth, and cover the seed much better than the common ones, which are made straight, as in figure 3, as is evident by the broad dotted lines a, b, which represent the space of ground that is moved by each tine in figure 2, when compared with the narrow dotted lines c, d, in figure 3.

At e, f, in figure 2, and at g, h, in figure 3, are hooks to shew which way the harrow is supposed to be drawn, which will serve to prevent any mistake in placing the tines.

ARTICLE III.

Cure for the Yellows in Neat Cattle.

S I R,

AS you so much wish for receipts for the disorders in neat cattle, I send you one for the **YELLOWs**, which I recommend from having experienced its good effects; and am, &c.

August 9th, 1776.

A F A R M E R.

Take seeds of fenugreek, anise, coriander, bay-berries, turmeric, and liquorice root powdered, each half an ounce; diapente, long pepper, grains of paradise, powdered, each a quarter of an ounce. This quantity is to be given early in the morning (the beast having fasted the preceding night) in a strong decoction of the tops of wormwood, rue, and the leaves and roots of celandine; let the roots and herbs boil about half an hour in three pints of ale.

It will be necessary to lessen or increase the above dose according to the size and strength of the beast, and to repeat it, if necessary, in about three or four days; observing to keep the animal from food for at least one hour after giving the drink.

ARTICLE

ARTICLE IV.

On the Diseases of Cows.—Continued.

Mr. SYLVAN,

I Have sent you a few more remarks on the diseases of cows, with their remedies. In my last you omitted a material circumstance, which was, that the cow-stall should always be kept very clean. I hope you will take care in future to print my letters correct. I am, &c.

C. WILLIAMSON.

A F E V E R.

THOUGH cows and oxen are different as to use, yet for the most part their diseases are the same, except such as peculiarly belong to each. I shall use the word beast as a general term, except when the disease is peculiar; thus, each is subject to a fever, from surfeit, over driving, and other external and internal causes.

The symptoms are, trembling, restlessness, weakness, and staggering in the gait; the eyes become heavy and inflamed, often red or yellow in that part called the white; the head is heavy and lumpish, the beast is dull and stupid, uttering sighs and moans as if in great pain, and fetches breath with difficulty; the mouth and tongue are very hot and dry, unless foaming, which sometimes happens; the food is neglected with a loathing, the skin is hot, and the hairs stare and seem to start an end, and frequently the skin breaks out in sudden tweats.

The cure must be begun with bleeding, which of all things is most likely to lessen the inflammation, and ease the difficulty of breathing.

The beast should be kept at home and very short of food, and warm mashs often changed and set before them, made with bran or oatmeal and water, with some nitre and honey dissolved in them.

After bleeding, in case the beast has not lately dunged, let a clyster be thrown up warm, made with gruel, oil, &c. and repeated occasionally.

After this, give one of the following balls once in about six hours:

Nitre, turmeric, liquorice powder, each one ounce; honey, enough to make a ball or two for a dose.

A a 2

Or,

Or, either of the following drinks:

No. 1.—Nitre, and cream of tartar, each half an ounce, in some warm gruel sweetened with honey, every six hours.

No. 2.—One ounce of crude sal ammoniac every six hours in some warm ale.

[The neutral salts are directed with great judgment; but as the use of malt liquors is almost universally condemned in *fevers*, we should substitute gruel for ale, to which a little rich mountain wine may be added, if necessary.]

Dr. James's powder for cattle I have heard much commended, but from my own experience I pronounce nothing.

I would by all means advise the stall to be kept cool in summer, but warm in winter; admitting air which may be kindly, but not chilling.

As in the above disorder I have recommended clysters, so I also frequently shall in the course of my treatise, and therefore shall here prescribe several forms of different kinds of clysters, which will be exceedingly proper for a Farmer to understand, as much virtue is contained in them if properly applied.

Purging Clysters. No. 1.—Gruel, three pints or two quarts; Epsom salts, or common salt, syrup of buckthorn, sweet oil, or linseed oil, each four ounces.

No. 2.—Boil a handful of bearsfoot and chamomile flowers in three pints of water a few minutes; strain, and add half a pint of linseed oil, and four ounces of syrup of buckthorn.

The clyster, No. 2, may be made more purging by adding senna, or bitter-apple.

Emollient Clysters. No. 1.—Milk gruel, three pints; sweet oil, half a pint.

No. 2.—Sheep's-head broth.

Carminative Clysters. No. 1.—Chamomile flowers, sweet fennel seeds, carraway seeds, and coriander seeds, each one ounce; water three pints; boil five minutes, strain, and add two ounces of electary of bay-berries, and one ounce of foot.

Anodyne Clysters. No. 1.—Sheep's-head broth, three pints; liquid laudanum, one ounce.

No. 2.—Dissolve half a dram to a dram of opium in some broth, gruel, &c.

Refringent Clyster.—Logwood chips, two ounces; balauftine flowers, one ounce; water, two quarts; boil to one, and then add two ounces of diascordium, and one ounce of armenian bole.

ARTICLE

ARTICLE V.

Cause of the Decay of Espalier Apple-Trees, in Answer to the Query.

Mr. SYLVAN,

YOUR correspondent A. W. [see our last, p. 131] complains of his espalier apple-trees decaying without any apparent cause; and as this complaint is not singular, I have ventured to send you a few cursory thoughts, which may perhaps excite some more able pen to investigate the cause more fully, and point out the means to prevent this complaint in future.

As the decay of fruit trees may be owing to various causes and circumstances, it will be almost impossible to ascertain the *particular* cause without being acquainted with their management in the nursery, and in the garden since they were planted for espaliers.

The nurseryman, as well as the corn farmer, finds an everlasting resource in dung, which is justly stiled "the nursery of vermin." He uses it freely while fresh, and the young plants shoot amazingly, with the appearance of being healthy, fine, and vigorous. It will be talking to no purpose to some nurserymen to object to this baneful method; they see the plants luxurious; they know that such will always be selected, and always fetch the best price: but I am not now writing to those who thus continually sacrifice their duty to their avarice.

Dung thus immediately applied, blisters and excoriates the roots; the blister is the proper nidus for small insects, which prey upon the roots and contaminate the sap; hence the disease, in every sense of the word, becomes radical; and, by the plant being still continued in the nursery, it is communicated to every part. While the stocks continue in this thriving state, neither canker, moss, nor gum, the usual symptoms of decay, are to be seen.

This free use of dung is proper enough for those annuals which must be forced in the spring that their seeds may ripen before winter; but trees do not require such treatment; nature never designed it.

The stocks thus raised as it were upon an hot-bed, are naturally tender, but being transplanted into a good soil and a warm garden, they make a tolerable shift to stand several years and bear fruit pretty well; but the disease contracted in this early state will shew itself sooner or later, for it seldom admits

of

of a cure, because it is not discovered till it is unhappily too late to apply a remedy.

If the young tree or stock, however, be but slightly tainted, its removal to dry, fresh, sweet earth, will frequently recover it, and prevent the decay from the fault alluded to.

Another fault is, planting young trees too thick in the nursery, which makes some of their shoots long jointed and weak, from their not having a free circulation of air; and if the stocks or their branches are much stunted or injured, so as not to acquire the requisite strength in their first growth, they rarely recover it afterwards, either when planted against the wall, or for espaliers, though they will sometimes in standards.

Free stocks and codlin stocks are both apt to decay, while the hardy crab stock will continue sound and vigorous. Nor must we forget the diminutive, dwarfish stocks which so much stint the free and natural growth of fruit trees, which always (in my humble opinion at least) lays a foundation for their early decay.

Improper pruning may justly be numbered among the causes to which the decay of fruit trees is attributed. Nothing scarcely can be more ugly than those crooked, rickety, mishapen things called fruit trees which we see nailed against the walls, or tied to the espaliers in some gardens.

The injudicious mode of pruning for fruit instead of wood, and the excessive quantity of fruit which in some years is suffered to grow upon the tree till nearly ripe, are both in an high degree injurious to its health.

The utmost care should be taken of the borders. In the first place they should not be too narrow; for the horizontal roots of fruit trees should always be encouraged. I would not recommend any plants to be suffered to grow upon the borders when the trees are large, except some small fallading in the spring, &c. The earth should be digged or turned over occasionally with a fork or prong, (that the roots may not be too much bruised) and fresh earth added when necessary, and part of the old dead earth removed, which will much invigorate the trees.

I am not a professed gardener, as you will see by some of my expressions; but if you think this answer has sufficient merit to entitle it to a place in the *Farmer's Magazine*, you will oblige me by inserting it.

I am, &c.

A LOVER of FRUIT.

[We

[We have had such frequent occasions from our correspondents to notice the impropriety of applying dung unmixed with earth to the roots of trees, that nothing farther is left for us to add on the subject. With respect to this answer to A. W. we think our correspondent has thrown out some very useful hints which may be serviceable even to a good nurseryman or gardener. See the article APPLE-TREE in the Dictionary at the end of this Magazine.]

ARTICLE VI.

Remarks on an Orchard that bears a large Crop of Apples every Year.

Mr. SYLVAN,

I Have often remarked, that an orchard belonging to a Farmer (who is a neighbour of mine) never fails to bear a good crop of apples. In those years when there is scarcely a bushel of apples in the whole parish besides, his orchard produces a middling crop, which at such times I call a good one. As I could not account for this, I asked him what he thought might be the reason of his trees constantly bearing such quantities of fruit. He frankly told me, that he was not *certain* that he knew the cause, but he was of opinion it was owing to the foddering his cows in the orchard, which he always did, and still does, with that view, as he thinks it enriches the soil.

There can be no doubt of apple-trees when they are large wanting a great deal of nourishment, and as the dung is washed in by the rains it may very probably contribute to the fertility of these trees; but as I am not well acquainted with the subject, (for I only know the case to be true) I wish some of your correspondents, who do understand it, would turn the matter in their thoughts, for this is certainly a very easy matter for farmers to put in practice.

August 16, 1776.

A FARMER.

[Those who have large orchards, or who live in the cyder counties, will be the best judges of this. It is obvious enough to every person who is at all conversant with agriculture, that the upper part of the soil which has not been lately ploughed is much richer and sweeter than that which lies deeper; and that one inch of the upper part of pasture land is worth two below it. On this principle we have always thought that if the intermediate spaces between the trees in orchards were to be ploughed or digged, if it could be done without breaking and tearing their roots to pieces, the benefit would be much greater than what is commonly apprehended. The under

under part of the soil gets sour and stiff, which a very little tillage would sufficiently meliorate. How far the practice above recommended may answer for the same purpose, (which we insert from authority) our readers who have had experience will determine; and if it merits any farther notice, we shall thank them for their remarks on it.]

ARTICLE VII.

A simple Method of washing smutty Wheat.

Mr. AGRICOLA SYLVAN,

AS every Farmer who may have smutty wheat does not know the easiest method of washing it, I send you the following one, which I think is worth a place in your Magazine; and if you think so, I hope to see it in your next number.

On a fine, clear, sun-shiny day, make choice of a stream of water that runs very flow; your wheat being ready, and two baskets, fill one of the baskets about three parts full of the wheat, and plunge it into the water; then with the other hand stir the wheat well, and all the smut and filth will be washed off, and as the water runs, it will all be carried down the stream. Your cloth being ready, spread the wheat upon it, and it will soon be dry. A waggon load may be washed in a short space of time by this method.

Aug. 14th, 1776.

T. J.

ARTICLE VIII.

On the Impropriety of removing a Flock of Sheep to another Field or Down immediately before the Ewes year.

Mr. SYLVAN,

THE following short extract from Lord Kames's "Sketches of the History of Man," is, I think, well worth inserting in your Magazine.

Bath, August 21st, 1776.

VARRO.

"I have it upon good authority, that ewes pasturing in a hilly country, pitch early on some snug spot, where they may drop their young with safety. And hence the risk of removing a flock to a new field immediately before delivery:—many lambs perish by being dropped in improper places."

ARTICLE

ARTICLE IX.

On Trees that will thrive near the Sea.

Mr. SYLVAN,

IN your last I see your correspondent VARRO recommends the Birch-tree to be planted near the sea to shelter cattle. Permit me, on the authority of Mr. Boucher, to recommend the Great Maple for this purpose; there being no tree yet known in this climate [Scotland] so proper to be planted near the sea, where, says he, I have known it grow luxuriantly, after many others have been tried in vain; and in a few years their shelter will cherish and bring forward many hardy sorts, which no art will otherwise effect.

E B O R.

ARTICLE X.

COLUMELLA's Dissertation on the different Kinds of Manure.—Continued.

WHEN I said in my last that not a grain of the fixed alkaline salts could be obtained without the action of fire, I did not mean to affirm that there was no such substance as the fossil alkali, the *natron* of the ancients; but as my remarks were confined to ashes produced by burning vegetables, I hope I shall not be misunderstood.

The Chymists assure us, that if vegetable substances, which if burnt would yield a large quantity of fixed alkaline salt, be first reduced to putrefaction so that the whole substance is perfectly putrefied, they will become exceedingly foetid, and a great part of them volatile; and that if they are then burnt in an open fire they will not yield the least portion of fixed salt. Hence alkaline salt is styled the creature of the fire; and so is glass, which no one would suspect to be a vegetable production; and yet the vegetable alkaline salt in contemplation is absolutely necessary in the composition of glass.

The fixed alkaline salts which are obtained from vegetables are not distinguishable from each other; the different appearances they assume being entirely owing to the different process in preparing them, and their being more or less free from heterogeneous substances.

It is pretty generally agreed, that the different kinds of ashes, whether peat, pot, coal, or turf, owe their virtue as manures to the alkaline salts with which they abound.

VOL. I.

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They attract the acid, and the volatile oil of animals and vegetables, that float in the air; with these they form a penetrating, neutral soap, which when diluted by the rains becomes a menstruum capable of dissolving earth, or reducing it to particles fine enough to enter the pores of the roots of plants; for earth, which is so necessary in the formation of their solid parts, is indissoluble in pure elementary water. The chymists call it a soap, because it has all the ingredients of soap in its composition, and answers the same end by dissolving concretions of earth: and every body must have observed the earth to foam and lather with an hasty shower of rain.

Alkaline salts attract water very powerfully, so as to dissolve in a moist air. They likewise attract and absorb all known acids, with which they violently effervesce. By their attracting the acid which floats in the air, a slight motion is excited, which (though to us imperceptible) is of considerable importance in disuniting the parts of the earth that cohere too strongly.

These salts possess a fiery acrimonious property, for on being applied for some time to a human body that is warm, they are capable of producing a true mortification; and when mixed with quick lime they acquire a very strong and quick corrosive power which exceeds that of any other known salt. This highly corrosive quality does not reside either in the alkali or lime alone. The substance obtained by this mixture is the cautery used by surgeons; and it is remarkable, that if the lime be first slaked either in the air or in water, the caustic will be abundantly milder.

The different kinds of ashes, and the manner of preparing them, are so well known, that it is superfluous to describe either the one or the other; but from these few remarks on the salt which they contain, their several properties and uses will be more clearly understood. Hence we see the reason why strong ashes burn up the grass, &c. in a dry season; and why they are so destructive to the fly in turnips if sown when the dew is falling that they may adhere to the leaf; and lastly, why no determinate quantity of ashes can be assigned for land without previously knowing their strength, and which can be learned only by experience.

From what has been said of the caustic produced by mixing lime with the vegetable alkaline salt, some idea may be formed why soapers ashes are sometimes too hot for land, and require to be mixed with some earth, or in a compost, to abate their fiery qualities. In general I have found, that when the ashes

are very strong, the best time to spread them upon pasture land, is in autumn.

All the kinds of ashes make an excellent top dressing for wheat, but should be sown early if they are strong, for fear the spring should prove dry and warm. Coal ashes, though some years ago they were in disrepute, are admirably adapted for wet, springy, spewey soils. I have known the red clover produced in great plenty by sowing coal ashes in wet pasture land; and others have told me they have experienced similar effects. The good effects of ashes on clover, saintfoin, and the other artificial grasses, are too well understood to require any particular instructions.

Ashes produced by burning turf are generally mild, on account of their being mixed with so much earth, which undergoes little or no alteration from the slow, gentle fire. Some vegetables produce a large quantity of ashes; others, furze or gorse, for instance, yield but a very small portion. If wet pasture land be trenched, and the earth that is digged out in spits is burned, and the ashes spread upon the dryer parts, the improvement will be great; the short white clover is frequently produced by this means. Burn-baiting I shall touch upon another time.

As alkaline salt is easily soluble in water, the necessity of keeping the ashes dry is too obvious to be particularly insisted on: when the salt is washed out, the remainder is little better than a meer caput mortuum.

Soot differs so little in its most sensible effects as a manure from strong ashes, that it requires no particular discussion.

Whatever objection may be made to some of the above kind of reasonings, it is justly observed, that our physical knowledge of things depends upon the discoveries which our senses make in natural bodies, and hence all their characteristics must be taken from such sensible signs thus discovered.

[*To be continued.*]

ARTICLE XI.

Remedy for Worms, in Infants and Adults.

IN our last we promised a receipt for worms in children. The best medicine that has perhaps been hitherto discovered is sweet oil given in small quantities and frequently repeated; interposing proper purges. How this medicine acts will easily be conceived from its being so peculiarly destruc-

tive to insects of every kind; for if a very minute portion be dropped upon a spider, a wasp, or a fly, &c. it proves fatal in a few moments, by obstructing perspiration, and stopping all the vital functions, as it is generally supposed.

For adults, calcined tin is reckoned inferior to nothing. It has however failed; but this was owing to the smallness of the dose. A scruple, or even a few grains, were formerly thought sufficient; but Dr. Alston assures us, that its success chiefly depends on its being given in much larger quantities. He exhibits an ounce on an empty stomach, mixed with four ounces of melasses; the next day half an ounce; and the day following half an ounce more; after which a purge is administered. He says the worms are usually voided during the operation of the purge, but that the pains of the stomach occasioned by them are removed almost immediately upon taking the first dose of the tin.

We shall not inform our readers why calcined tin is a specific in the worms, lest some delicate people should object to taking it in such large quantities, and thus defeat its intention.

The anthelmintic virtues of some mercurial preparations have been highly extolled; but as they are not to be trusted in the hands of injudicious persons, we forbear to give them.

Old women are fond of giving bear's-foot, but it is at best a very dangerous medicine; several instances occur of an over-dose proving fatal to children.

ARTICLE XII.

On sowing old seed Wheat to prevent the Smut.

MR. SYLVAN,

YOU have given in your last an excellent method of liming and brining wheat, to prepare it for sowing, communicated to the Society, &c. by Mr. Reynolds. I think you should have communicated his notion, of *old seed wheat* never producing smut, though new seed wheat will. His reason is, that smut is produced by animalcules, which die before the old wheat is sowed.

A. CONSTANT READER.

[We differ in opinion from Mr. Reynolds about the origin and nature of smut, but cannot now enter fully into the argument; we propose to give our readers the different opinions which writers entertain, and then perhaps we may hazard a few loose remarks.]

ARTICLE

ARTICLE XIII.

To clean Looking-glasses, Paintings, and gilt Frames.

Mr. SYLVAN,

I Need not inform you that the snuff of a candle is commonly used for cleaning looking-glasses, but powder blue is much better.

Some warm water with a sponge will wash off the spots from paintings without injuring them, after which a little sweet oil may be rubbed over them, and then wiped clean off again.

Gilt frames may be washed clean, and made to look well, with water in which a little clean soap has been first dissolved; this must be used with a very soft painting brush, and then washed off again with clear water, and dried quick.

LUCINDA.

ARTICLE XIV.

A Preparation of Carrots for the Use of Seamen in long Voyages.

Mr. SYLVAN,

THE following Essay was communicated to the *Agriculture Society at Manchester*, by Dr. Hunter, at their Annual Meeting on Thursday the 8th instant; and I doubt not of your readily admitting it into the *Farmer's Magazine*, for the general information and benefit of the public.

I am, your's, &c.

Aug. 20th, 1776.

A Member of the said Society.

THE great utility of all kinds of vegetables in curing and preventing that species of scurvy to which seamen are particularly liable, is so clearly ascertained, that it will be unnecessary to employ any time in the proof of it; I shall therefore proceed to describe a remedy of the vegetable kingdom that probably may answer the happy purposes of preventing, mitigating, or curing the Sea Scurvy, and all such diseases as derive their origin from the want of vegetable food.

The vegetable I mean to recommend is Carrots, and as it is impossible to preserve them in their natural state for any length of time, we must be content with an artificial preparation. The following is the method I have successfully made use of:

Take

Take any quantity of carrots in the month of September or October. Let them be topped and tailed, and afterwards washed clean in warm water. Scrape them, and cut them into pieces about two inches in length, throwing away such parts as are decayed. Put the whole into a large copper, with as much water as will preserve the bottom from burning. Cover them close, and light a moderate fire underneath, so that the carrots may be stewed and softened in the steam. When they have become sufficiently soft, let them be mashed and pulped through a coarse sieve. Then take a quantity of loaf sugar equal to the weight of the pulp, and, according to the rules of confectionary, reduce the whole over the fire to a proper consistence, taking care to evaporate the superfluous moisture by continually stirring. When cold, put this marmalade into pots, covering it over with a paper moistened in brandy; and over that such another covering as is generally recommended for preserves.

This I consider as the neatest preparation of carrots, and may be recommended for tarts, dumplings, &c. for the officers tables. Another preparation for the seamen may be made with coarser sugar, and the carrots, instead of being pulped through a sieve, may be mashed by the circular stone employed in the cyder mills, and afterwards boiled up to a proper consistence. And as this last preparation will be consumed in large quantities, it may be put up into small casks.

The quantity intended for one day's consumption, should be taken out and mixed in an earthen or wooden vessel, with as much of the strong spirit of vitriol as will give it a grateful degree of acidity; after which it may be used in a variety of forms. A spoonful of this marmalade, put to a proper quantity of water, makes a cool and wholesome drink in fevers, and all disorders proceeding from putrescency; and probably when given in this manner, with a little brandy or wine, it may become a general preservative against the scurvy. Seamen may also have it in the form of dumplings, in which shape a full meal of vegetable food may be afforded at a small expence.

In order to be satisfied that this cheap and palatable antiscorbutic will keep in a warm climate, I preserved some pots of it, for twelve months, in a room heated with a constant fire, and had the pleasure to observe that it kept extremely well. I ordered some of the pots to be acidulated, but the conserve did not keep so well; so that it is the better way to use the acid occasionally, as formerly directed.

A palatable

A palatable mess may be made as follows: Take carrot marmalade one large spoonful; salep, in powder, one tea-spoonful; mix together---then add warm water half a pint, wine four spoonfuls, spices a small portion, if required. This mixture is highly antiputrescent and nutritive.

In all cases where the consumption is large, the price of the commodity is a material consideration. From certain experience I dare venture to say that the finest sort of carrot marmalade may be afforded at six-pence per pound; and the coarser kind at a price considerably less.

The health of the British seamen is so essential to the welfare and interest of these kingdoms, that I flatter myself every attempt that has this great object in view will meet with a favourable reception. This memoir has been communicated to Lord Sandwich, whose attention to every thing that regards the welfare of the navy, gives me the most flattering hopes that an extensive trial of this antiscorbutic marmalade will soon be made by his Lordship's orders.

ARTICLE XV.

Miscellaneous Hints for Farmers.

Mr. AGRICOLA SYLVAN,

S I R,

MY present letter shall consist of several practical hints.---- It is universally allowed (I believe) that vegetables give up their best and richest juices most easily; this is particularly taken notice of by people concerned in dying; the finest colour being extracted first. I have always applied this reasoning to the art of making cyder, so that I squeeze my apples very lightly for the best cyder, and am still of opinion that it is better than that which is forced out at last by main strength.

Malt dust and kiln ashes are well enough known and used as manures; the former is, in my opinion, a good and sweet manure, but a weak one. The kiln dust is much preferable to it in point of strength, as every Farmer will find who has a mind to try it; in fact, I know very few manures that exceed it, but then it can be had only in small quantities.

I cannot help thinking that thistles and other rank weeds in grass lands are most easily destroyed when they are in flower; for if we cut them off as soon as they appear above ground,
unless

unless the root decays, it will shoot again while the sap is so vigorous. But this never is the case when they are almost ripe, nature having then exhausted herself, as I may say; hence land that is mowed produces few or no thistles, while land that is grazed, though care be taken to cut them up, will still abound with them. I know that many are suffered to run to seed, which is a great fault; but every person that will make the observation, or recollect a little, will find that thistles do not love the scythe.

In sowing very small seeds, such as turnip seed, it is customary with many to mix dry sand with the seed to prevent their taking up too much seed at once, which is not a bad method; but these small seeds may be spread very well without sand, by observing to let the seed fall from the thumb and fingers into the palm of the hand just as you are sowing it; by this means much less seed will do, and it will be more regularly sowed than when you throw it in pinches from the ends of your fingers. I am, &c.

W-shire.

AN OLD FARMER.

A PRACTICAL REVIEW of NEW BOOKS on AGRICULTURE, &c.

Rural Improvements: or essays on the most rational methods of improving estates; accommodated to the soil, climate, and circumstances of England: In which it is clearly demonstrated that the Landed Estates of this kingdom may with certainty, and at a very moderate expence, be increased to double their present value. The method of doing which is clearly pointed out, and proved from undeniable principles, deduced from a series of real practices and experience. Essay first; shewing the improvements that respect the occupier. Essay second; the improvements that respect the land owner. The whole interspersed with a variety of interesting reflections and observations, on the poor, poor-laws, high prices of provisions, labour, decay of foreign trade, population, corn trade, bounty on exportation; with rational and proper measures respecting the same. Also, remarks on Messrs. Harte, Tull, Miller, Chateaux, Young, Peters, Weston, Complete English Farmer, &c. By a Land-Owner. Doddsley, 5s. sewed.

THE author of "this small work," which we are going to review, assures us, and he frequently repeats his assurances in strong and expressive terms, that it contains no facts but what are deduced

deduced from a series of real practice and experience, either of his own or of his intimate acquaintance, whose practice and success he *knows as well* as his own. Confiding therefore in these repeated assurances we shall review it with more than ordinary attention.

It is dedicated (but not by permission, as we suppose) to the Society for the encouragement of arts, manufactures, and commerce. The dedication is written in a strangely laboured bloated stile; take, for example, the following period. "He is not, however, seeking, from the dignity of your establishment, a screen, to cover the manifold imperfections of his performance; he is too well acquainted with mankind to think, that the auspices of the greatest societies would sustain him against the incorruptible suffrage of common sense and experience." Passing over this fault, which is venial indeed when compared with his illiberal and even shocking abuse of Messrs. Young, Weston, Peters, &c. though, he says, he bears them no ill will; (for we cannot believe that they are such "*deceitful impostors* which every wise man would despise and avoid, and every honest man expose and circumvent,* or that they are such *notorious cheats*, have such *criminal intentions*, are so *desperately wicked*, as to deserve to be despised and PUNISHED as *dangerous enemies* to the good of their country") we shall principally confine ourselves to the following practical important points, which he discusses and defends with so much "*positivity*."

1. An easy method of improving lands that are so circumstanced as not to be improved by dung, ashes, or lime, on account of expensive carriage, at the least possible expence. 2. The superiority of horse ploughs over ox ploughs in point of profit. 3. The very great improvements to be made by dividing large farms into small ones. 4. The superior advantages arising from the drill husbandry when compared with the broad cast. 5. The absurdity of giving a bounty to increase the exportation of wheat: of which in their order.

In chap. 3, he lays down the following general maxims as universally true. 1st. Never to plough up any pasture or meadow land for corn, &c. while the present annual value is as great as can reasonably be expected from converting it into tillage. 2dly. Good deep ploughing, (where the soil will admit) harrowing, and rolling; these must be well timed to reduce the earth to a competent fineness. 3dly. To keep the land clean and as free from weeds as possible. 4thly. To trench and drain all wet springy lands. 5thly. To keep the bounds and fences in good repair. These are indeed, as he justly observes, the *fine qua non*, without which all endeavours will prove ineffectual.

As this land-owner had several hundred acres which served no other purpose but to summer a few sheep and young cattle, to which uses they had been put for a great number of years, he took some

C. c

of

* We do not well understand what he means by *honest men circumventing* their neighbours.

of the lands into his own hand, with a determined resolution to improve them, "*if possible*," and which he has not the "*least doubt of effecting*," by the course which he is "*now pursuing*." This seems to be holding out a different language from "*a series of experiments and observations already made on an extensive scale*;" but we will lay before our readers a particular account of this "*advantageous and extensively useful species of improvement*."

About thirty acres were situated on an hill, which rendered it impracticable to be manured with dung. "The last tenant had left the land in woeful plight, having, as he said, ploughed it as long as he could get two corns for one,—miserable condition indeed!"—Was this land ploughed only "*to summer a few sheep*?"—but we pass on. "The first two years it was left to the management of the hind, who *cleaned* it, and sowed it with every sort of grain; but the return was such as left nothing for rent." We do not wonder at the last circumstance, if the land was first cleaned and then sowed with *every sort of grain* in so short a space of time. Having resolved to try his own method, he addresses his hind thus.

"You see here are the two upper fields (about eleven acres) have now lain above a year since the crops were got off, they have nothing growing upon them but strong weeds, which are the natural product of the soil, as thistles, horse-daisies, brambles, &c. These are first to be eradicated; therefore set a couple of strong ploughs to work, six oxen to each, and plough the two fields deep and well, then let them as soon as proper be well dragged, rolled, and harrowed, and the ploughings, &c. repeated until the land is clean, well opened, and pulverized."—"This was repeated at proper intervals through the winter, and until the following May. By that time they were got tolerably clean and in good condition. The soil of each of these fields was very different though no larger, they consisted of some very dry land, and some altogether as wet. The first was a poor, lean, slaty ground; the latter a tough, moory, close earth, mixed with an imperfect marle, which held water like a dish. I had a pit sunk in the most depending part to drain off the water, and ordered the earth to be spread on the slaty field at a proper time. As I said, the land was in good order the May following; I therefore ordered the moist parts of the fields to be sown with ryegrass, and the dry parts with trefoil and burnet; which as soon as pretty full blown I ordered to be mowed, made into hay, and set up in a rick in a corner of the upper field. The fields to be then laid up until October, or until the grass had done growing. Then to turn into the *said* fields half a dozen mares and their foals which I had at that time, with some young cattle, to have the run of the *said* thirty acres during the winter. I also ordered a linny or hovel to be erected in the most sheltry part of the fields, large enough to shelter a dozen horses under it, for them to go in and out at pleasure. A rack to be put up, and when the grass was nearly eat up, to cut the rick, and fill the rack once or twice a day as might be necessary.

cessary. Also to carry straw to litter the hovel, which should be cleaned out once in a week or ten days, and a dung-heap formed of the same. In this manner the cattle should remain until the end of February, or until the grass began to spring.

“ While this was doing, another of the fields should be ploughed and got ready to sow in like manner the following May. As the extent of the pasture will be increased, so may the number of cattle to be wintered on it; and at the beginning of the second winter, there will be dung enough to manure one of the fields, which I would have spread on the upper field in December, or January at farthest, by which means I *hope to have* another good crop of grass. Thus are you to go on year after year, and field after field, until the whole has been well cleaned, cultivated, and dressed. I *do not expect* it will answer to let it *lay* for grass more than two or three years, therefore in the winter after the first year, I *would have* dung spread on the field or fields that are mowed, which would give encouragement to the next crop, and leave it sufficiently in heart to bear a crop of barley or oats, with which I *would have you* sow either clover, rye grass, or trefoil, as best suits the land, taking but one crop of corn to two of grass, which cannot fail of improving those lands, as I *would have* them constantly fed in the winter as above directed, and the dung that is made in by the cattle to be used for the manuring that land only; for it is a kind of injustice, if one may so speak, to carry the produce off, and not to leave the manure that arises from it, and is its natural due: A robbery that is too frequently committed, which keeps such land in a perpetual state of poverty. These thirty acres [a little above he talks of *eleven* acres only] in the condition I first found them, were not worth more than half-a-crown an acre, but by the above management, are well worth ten shillings at least; and by the same means are capable of much more improvement.

“ The method here laid down for the improvement of land circumstanced as before-mentioned, is so clear, so easy, and so little expensive, that I think no reasonable doubt can be entertained of it, or objection made to it. I mean, that of eating the produce upon the lands, and manuring them with the dung the cattle make there.

“ The only material consideration is, whether the lands in question are capable, or worth attempting to improve them. If they are absolute rock, or poor sand or gravel, without any mixture of soil, and no clay, loam, or marle near at hand; to be sure they are not worth the least trouble or expence; but let them be sand or gravel as poor as you please, if you can have a binding earth of almost any sort, at a little expence, you may easily render them fertile, by giving them first a good coat of such earth, and feeding the cattle upon the produce, as above; this in a very few years would convert land, almost barren, into good fertile corn land, and at the same time clear the whole expence, while it was doing.

“ By such management, land that is very indifferent in its natural state, may very soon be made good corn land, to the great advantage of the owner.”

We have given this long extract, that the reader may judge of the stile, (which he will see is not very correct), as well as of the mode of improvement which the author so strenuously recommends. Whatever the reader's thoughts may be, we are naturally enough reminded of the common observation, which, however trite it may be, will always be found to be just,—that if we grant a schemer his *first position*, all the rest will follow of course. It is not every farmer who has poor land that has six mares and their foals to spare for a winter's run; nor can a field be covered over with a good coat of binding earth from a neighbouring field (if it can be had) at a *trifling* expence: besides, turning horses and cattle to winter upon such *moory, close* soils, would be the most likely method in the world to prevent any kind of improvement taking place, because they would tread and poach it most intolerably. And, after all, there is nothing *new* in building hovels or lineys upon distant lands, and then foddering cattle upon them; every farmer knows it is commonly practised. We could point out several other absurdities, but they will occur readily enough to practical farmers, such as his “land almost barren being converted into good fertile corn land,” though it is to produce but one crop of corn, at the most, in *three* years, being two years out of three laid down to grass;—excellently *good, fertile* corn land this! But it is time to consider his second position, and the arguments he adduces to support it.

“ In ox countries, says he, the usual practice is to buy them in at about three years old, and they cost from four pounds ten shillings to six pounds a-piece; they usually work them three or four years, and then sell them from six pounds to ten pounds each. They do not usually keep them longer than until they are about seven years old. Upon this plan they get the labour of the ox for his keep, and from thirty shillings to four pounds advance in price above the first cost. This is the case when all happens well: but notwithstanding the *common opinion*, they must be taken care of, or they will not fetch a profit, many would be lost, and indeed it is not uncommon for them to die, notwithstanding all the care that can be taken.

“ The Farmers who plough with horses, usually buy them in at two or three years old, and work them until they are five, six, or seven. They are bought in from ten or twelve to eighteen or twenty pounds a colt, and sold out from sixteen to thirty guineas a horse, and sometimes more; in this way the Farmer gets the labour for the keep, and from six to ten guineas on his advance of price.”—So says Mr. W— p—y in this most fallacious statement.

He says, it is not uncommon for oxen to die; granted: neither is it uncommon for *horses* to die. In this latter case, a farmer would feel

feel the loss of *thirty guineas* much more sensibly than *ten pounds*, which will make a considerable deduction from his profit of horse ploughs. In short, his comparison is drawn in the most partial manner between the *smallest sized oxen*, and the *largest horses*; and then he exultingly tells us, that "he is certain two horses will plough more than four oxen, that they will do the same labour, and lastly, that horses are useful and fit for every purpose, which oxen are not." If this be true, may we not beg leave to ask him why he keeps more oxen than he does horses? for he says, that he even now keeps fourteen oxen, and only from ten to fourteen plough horses; but we shall have farther occasion to observe, that his pen and his practice are not in unison.

"But, says he, there is another method of doing this business, which I take to be more profitable than either of the above, which I have practised these two years, and am going on with the third. My scheme is, to do my work with mares; for this purpose I bought *about eight strong mares*, they are not properly of the draught kind, but do very well at plough and harrow, or any thing that does not require sticking very close to the collar. What I prefer are strong hunters, or the light nimble coach breed. If they are finew-strained, or shook in the shoulders, or otherwise blemished by accident, they are still very fit for this business; mine cost from twelve to fourteen pounds a-piece."

These mares have been covered two successive years, and have brought ten very fine colts, worth, he thinks, ten guineas a-piece; but then fresh mares must be bought to supply the place of those which run with their foals. As he has plenty of land for them to run on, he says, they cost little keeping nine months in the year; upon the whole, he takes this to be the most profitable method of all others of performing the draught business of a farm, and doubts not but it will in time be much practised.

Every thing that he has said on the subject may easily be frittered to atoms; but we shall content ourselves with remarking, that the long series of facts and experience is confined only to a *two year's trial*, whether a plough composed of finew-strained, shoulder-shook, blemished mares, may not be more *profitably* employed in the farming business than either good horse or ox ploughs; and without any farther experience, determines in favour of his *hobbling* scheme; and yet he allows (as indeed every one must allow) that oxen perform some kinds of farming business better than horses. In a word, it is high time that an end was put to the dispute about the preference of horse or ox ploughs, since all parties admit, that in some cases oxen perform their work better than horses; and that in other cases, horses have an equal advantage over oxen. If therefore a farmer keeps three ploughs, and in some circumstances if he keeps only two ploughs, we are authorized to say, that it will be most for his interest to let one of them be an ox plough.

The remainder of this to be given in the next number.

Esq.

Essays relating to Agriculture and Rural Affairs; in two Parts. Illustrated with Copper-Plates. By a Farmer. Creech, Edinburgh; Cadell, London. 6s.

WE learn by an advertisement prefixed to these Essays, that they were written by the persuasion of the late ingenious Dr. John Gregory of Edinburgh. The first part was nearly in the same state in which it now appears when that gentleman died, Feb. 1773. The second part, we are told, is a very inconsiderable part of an intended much larger work, the prosecution of which, upon that extensive scale, has been laid aside.

The work is divided into six essays; 1. On inclosures and fences; 2. On draining bogs and swampy ground; 3. On the proper method of levelling high ridges; 4. On the proper method of sowing grass seeds; 5. On hay-making; 6. Which contains the whole of the second part, is entitled, "Miscellaneous Disquisitions, Doubts, and Queries, relating to Agriculture."

Though the work before us is more particularly calculated for the Farmers in North-Britain, yet the author, who is a man of parts, and seems to write from experience without *scheming*, throws out a great many useful practical hints that may be of considerable service to the more enlightened husbandmen in the South of England, whom we take to be the best Farmers in Great-Britain. The Essayist speaks with great diffidence of the second part; but we scruple not to pronounce it to be greatly superior to the first, which is in many places swelled with tedious disgusting instructions to perform, what almost any common labourer must necessarily understand without them; in short, this fault runs through most of our modern agricultural treatises.

This Farmer, in his first essay, recommends the sweet-briar (after Mr. Boutcher) to be planted in hedges, as being easily raised, and, on account of its prickles, making an impenetrable fence; where therefore the last-mentioned circumstance only is wanted, this plant may with great propriety be introduced; especially to plant in gaps or shards, where, as Mr. Boutcher observes, other plants sometimes will not grow.

In p. 13, he gives us the following simple method of rearing it. "Let the berries, or hips, as they are usually called, be gathered ripe, and pitted in the ground like haws, or other kerneled seeds, for one year, and sowed in the ensuing spring in a bed of light, rich garden mould; they will quickly appear, and as they grow very fast, some of the strongest of them may be taken up [late in] the first winter, [February] and planted where they are to remain."

Though the sweet-briar is easily and expeditiously raised, yet where a large quantity may be wanted, we should direct the Farmer to the nursery-man, who will sell them on sufficiently cheap terms. It is however attended with one inconvenience; the straggling branches are apt to catch hold of the wool, and sometimes tear off large quantities from a sheep's back.

"But among all the plants which have been used for fences, the white

white thorn is justly esteemed the most valuable, as it possesses in a more eminent degree the requisite qualities of quickness of growth, strength, prickliness, durability, and beauty; and "it may in general be remarked, that a hedge of [white] thorns which has been planted in the face of a ditch, thrives better than in any other way."

This doctrine we beg leave to controvert; but as our present limits are too scanty for a *practical* review, we must reserve it for the next month. The 2d, 3d, 4th, and 5th Essays, contain but little new matter; with the 6th, we shall occasionally enrich our future numbers. *[To be continued.]*

The Philosophical Transactions of the Royal Society of London.
Vol. XLVI. For the Year 1776. Part I.

ARTICLE I.—On the nature of the Gorgonia; that it is a real marine Animal, and not of a mixed nature, between the animal and vegetable. By John Ellis, Esq; F. R. S. in a letter to Daniel Solander, M. D. F. R. S.

THE Gorgonia is an animal of the polype kind, resembling the common fresh-water polype in many of its qualities, but differing from it in the remarkable circumstance, of producing from its own substance a hard and solid support, serving many of the purposes of the bone in other animals. The gorgonia has such a near resemblance in its growth to a shrub, that it hath given occasion to the mistake of placing it in the vegetable kingdom.

ARTICLE II.—Contains 1719 observations on the variation of the compass in several voyages to and from the East-Indies, Guinea, West-Indies, and the Mediterranean.

ARTICLE III.—Propositions selected from a paper on the division of right lines, surfaces, and solids. By James Glenie, A. M. of the University of Edinburgh. Communicated by the Astronomer Royal.

This very curious article cannot be abridged, nor understood without diagrams.

ARTICLE IV.—A new method of finding time by equal altitudes. By Alexander Aubert, Esq; F. R. S.

This cannot be perfectly understood without the diagram; but the following extract may be both useful and entertaining to a certain class of readers.

"Among the various methods practised for finding time, that by equal altitudes of the sun or of a star, hath hitherto been esteemed the most eligible for observers who are not furnished with a good and well-adjusted transit instrument. Though this method is one of the best, it is attended with inconveniencies; for if the sun or stars near the Equator are made use of, as usual, and the altitudes are taken near the prime vertical, where the change of altitude is the quickest, the interval of time between the observations must, in most latitudes, be of so many hours, that the observer cannot always attend to the corresponding

corresponding altitudes: the weather may prove variable, the clock or watch may go irregularly, an alteration in the atmosphere may produce a variation of the refraction; to which may be added, the difficulty of making the instrument follow the object in its motion in azimuth, without danger of disturbing its adjustment in regard to altitude."

The following method, which has been practised with constant success, is proposed to remedy these inconveniencies.

"If a star is selected, of which the polar distance is very little less than the complement of the latitude of the place of observation, it will, at equal distances from the meridian, come to vertical circles, which touch its parallel of declination. The star, when in these vertical circles, will be near the meridian, near the prime vertical, and near the zenith; and consequently, if it be observed there, the interval between the eastern and the western altitudes will be short; the alteration in altitude will be quick; the star cannot be affected by a different refraction; besides, it will have no motion in azimuth."

ARTICLE V.—*An account of Falkland Islands.* By Wm. Clayton, Esq; of his Majesty's Navy.

Our readers will easily recollect the recent political dispute about this "barren, dreary, desolate, boggy, rocky spot," as Mr. Clayton calls it.

"Falkland's, or the *Malouine* Islands, as the French and Spaniards call them, are situate between the latitude of $52^{\circ} 26'$ and $60^{\circ} 6' S.$ and longitude from London 56° to $60^{\circ} 30' W.$ and are numberless, forming a mass of broken high lands, or very low sedgy keys and sunken rocks.

"The larger islands produce a few plants, and near the shore, wherever there is a sandy soil, a species of grass grows, called the *Penguin* grass, from the birds of that species making their nests, and burrowing under ground like rabbits in holes. This grass grows four or five feet high; the blades are broad and coarse like rushes; the roots, when roasted, eat like almonds; but nothing grows to any considerable size, nor doth any tree grow on any of these islands.

"The prevailing winds are from the S. to the W. for two-thirds of the year, and in general boisterous and stormy. The N. and N.W. winds are mild and warm; but seldom of long continuance. The winds from the N.E. are moist, foggy, and unwholesome. From E. to S. are most pernicious, blighting, and tempestuous; they affect man, beast, bird, and vegetation: nothing can stand it which is exposed. Happily its duration is short; it seldom continues above 24 hours. It cuts the herbage down as if fires had been made under them; the leaves are parched up, and crumble to dust. The fowls are seized with cramps, so as to become lame, and never recover; but continue to decline till the whole fide is decayed which was first affected. Hogs and pigs are suddenly taken with the staggers, turn round and drop, never to recover. Men are oppressed with

with a stopped perspiration, heaviness at the breast, sore throats ; but they soon get over it by due care.

The sea abounds with mullets, large smelts, transparent fish, and loggerheads ; muscles are plenty, large and fine, and no ways dangerous. In the river on the large island, are small fish like trout, very delicious ; but no other sort whatever.

The amphibious animals are of four kinds ; the sea-lion, the seal, the clasphead seal, and the fur seal. They all come on shore in December, to whelp ; and remain mostly on land till they copulate again. During this season it is rather dangerous to come near them, for the males are then vicious, and will endeavour to hurt any one who approaches the females.

The penguins seem amphibious animals, partaking of the nature of birds, beasts, and fishes. These creatures generally live in the sea, have very short wings which serve for fins, are covered with short thick feathers, and swim at an amazing rate. On shore the penguin walks quite erect with a waddling motion, like a rickety child ; and the breast and body before being quite white, it has, at first sight, the look of a child waddling along with a bib and apron on. Their eggs are good and nourishing, but their flesh is wholly unfit to eat.

The only quadruped on these islands is a fox, which is now very shy and scarce to be got.

There are several sorts of wild geese. Wild ducks, widgeon, teal, and shelldrakes, are the same as in Europe. Snipes are in such plenty, and so exceedingly tame, as to be knocked down with sticks at pleasure. The season for every species of birds, wild and tame, laying and hatching, is from September to December or January ; so that navigators touching at these islands in that season will meet with great refreshment.

“ Over the several islands is a surprising species of vegetation, which I know not what to call. It resembles, at first view, our molehills in the marshy grounds in England. It is circular ; sometimes six feet round, sometimes less. From the surface oozes out a gum in round blebs, of the smell and taste of the balsam *cappivi*. The body of these hills is formed within by a number of small substances, like the cones of pines. The outside is crusted over with dark green small leaves, running into each other, and cemented as if with glue. I opened several, and found that no vermin formed them ; but there actually was a kind of vegetation ; and yet the wild cranberries vegetate on them when the seed is lodged on them. The balsam I brought to England, and it is now on trial by an eminent surgeon.”

The coasts of these islands abound with whales of the spermaceti kind, and the islands with innumerable seals and sea-lions, from whence a valuable fishery may be carried on ; the passage out being only twelve weeks, and the same home. One article we cannot omit ; the winter is remarkable for its mildness, and the summer

is remarkably cold; so that in general throughout the year there is but little difference in the weather.

ARTICLE VI.—*Short and easy Theorems for finding, in all cases, the differences between the values of Annuities payable yearly, and of the same annuities payable half-yearly, quarterly, or momentarily. By the Rev. Richard Price, D. D. F. R. S. In a letter to Sir John Pringle, Bart. P. R. S.*

These theorems cannot be abridged, but, to us at least, they appear to be more curious than useful; for no person can be so ignorant as not to know, that an annuity which is paid *quarterly* is worth something more than if it was paid *annually*; and those who buy or sell annuities for their own lives, seldom pay much regard to these nice calculations.

ARTICLE VII.—*An account of the Romansh Language. By Joseph Planta, F. R. S. In a letter to Sir John Pringle, Bart. P. R. S.*

The bible lately presented to the Royal Society by the Count de Salis, being a version into a language but little attended to in this country, Mr. Planta has here given a curious historical account of the Romansh language, which it seems is now spoken in the mountainous parts of the country of the Grisons, near the sources of the Rhine and the En.

The heroic achievements and gallantry of the Knights of the Cross giving rise to a swarm of fabulous narratives; these, though not an invention of those days, were yet, from the name of the language [Romansh] in which they were written, ever after distinguished by the appellation of *Romances*.

ARTICLE VIII.—*A supplement to a paper, entitled, Observations on the Population of Manchester. By Thomas Percival, M. D. F. R. and A. S.*

From these tables it appears, that the proportion of males to females baptized in Manchester, and the adjacent places, is as 13 to 12; but that the widows are almost double the number of widowers.

The following fact militates very strongly against polygamy. A plurality of wives is not allowed in Armenia, and yet that province is more populous than any other belonging to the Turkish empire.

Dr. Price has given many melancholy proofs of the declining state of population in this kingdom; but near Manchester, the inhabitants multiply with great rapidity. The Bishop of Chester informs Dr. Percival, that in the various parish registers which he has consulted, the births have progressively become more numerous from generation to generation. At Boxley in Kent, where his Lordship was vicar, he observed, that the increase of births since the reign of Queen Elizabeth, was in proportion as 5 to 3. So that it is to be hoped, the evils which Dr. Price enumerates as the cause of depopulation, do not universally prevail.

[The remainder of these papers will be given in our next.]

POETRY.

P O E T R Y.

The AMBITIOUS COW.

A TALE.—IN SIX CANTOS.

Occasioned by a Cow visiting a Gentleman's Chamber.

CANTO I. *The Cow's Progress.*

A Cow was driv'n from grafs and hay
To town, upon a market-day;
Not us'd to travel lanes and streets,
She stares at all she sees, or meets;
But, goaded on, with much ado,
She stands expos'd to public view.

Now country-dealers come around,
To see if she was plump and sound:
This views her udder, that her paunch,
Some like her head, but not her haunch;
Her wrinkled horns another spies,
Red water, sprains, or goary eyes;
Some praise her buttocks, blame her
breast,

And so, in short, of all the rest.
She liking not this situation,
Would often spurn with indignation.
(Some Cows have gain'd immortal
fame;)

So all at once th' advent'rous dame
Took to her heels—the *hind* runs after,
Spectators view the scene with laughter.
Ho! *Damsel*! * ho! the Farmer cries—
The more he screams, the more she flies.
Hind after *hind* in vain pursue,
Damsel had greater things in view.

CANTO II. *Her Exaltation.*

An hospitable house stood nigh,
For the distress'd a sanctuary;
By the good master decent kept,
With rooms well furnish'd, rubb'd, and
swept:

Here she walks in at open door,
Where never *Cow* had trod before;
And finding nothing to oppose,
Up stairs, with step majestic, goes;
And in the chamber, at a venture,
Does without ceremony enter:
There proudly stalking to and fro,
Looks down with scorn on cows be-
low.†

Narcissus like, now views her face,
Reflected from the looking glass.

* *Damsel*, the name of the cow.† The *sash-window* overlooked the *beast-*
market.

But oh! it cannot be express'd,
How much the host admir'd his guest:
Indians, they say, are very civil,
And worship, when they see, the devil.
Thus with low bow he greets the
stranger,

At distance safe—foreboding danger;
For in her way, the honest cow,
With butting head, returns the bow.
Thus Jews, we read, upon record,
Far off, th' exalted calf ador'd;
Romans thus bow'd to *rods* and *axes*,
And boys thus reverence *Syntaxis*.
Now in his mind strange stories came,
Of *Iô*, that Egyptian dame;
Rememb'ring in Pantheon, how
Juno assum'd the shape of *Cow*:
But if she was of heav'nly nature,
Thought 'twas a very ugly creature.
Besides, to set the matter right,
Damsel was black—and Juno white.

But inwardly he was chagrind;
A panic fear can scarce be screen'd.
His thoughts were in strange agitation,
How to dislodge her from high station:
Some deem'd it best in open battle,
With kitchen arms to fight such cattle:
Some thought it best old brags to ham-
mer,—

As bees are pacify'd with clamour:
But council being held below,
'Twas judg'd most safe to storm the foe.

CANTO III. *The Cow besieged.*

Now scaling-ladders mount on high,
Bold *Clarke* begins the battery;
And bravely enters at the breach,
(Necessity will Tyros teach)
The cow one volley gave, we find,
Like Parthian shooting from behind;
Yet on the heroes ventured at her,
Through storms of garbage, wind, and
water.

But ammunition spent—she fairly
Ceas'd hostile acts, and beat a parley;
For having no one to defend her,
Thought it most proper to surrender:
But tho' the garrison they gain'd,
Capitulation she obtain'd;
And thus reduc'd to bad condition,
Made honourable composition.
So she retreats her arms upon her,
With ribbons drest, as marks of honour;
And having thus escap'd the foe,
Joins with th' ignoble herd below.

CANTO IV. *Her Travels Home,
and Adversity.*

But now the hind began to scold,
The time was spent, the beast unfold.
So home he drives her to the farm,
With threat'ning cudgel on his arm.
Hough! hough! he cries—the way make
clear,

A Cow of quality comes here:

Yet gives her now and then a switch,
"Along—you proud, high-minded
bitch;

"What, you must fashions learn, and
clamber,

"To visit gentry in the chamber!

"For giving me to-day this trouble,

"To-morrow thou shalt feed on stub-
ble."——

Thus Roger drove her home, repining,
Then turns her out in yonder tining.

CANTO V. *The Cow's Dialogue.*

But, as the story goes, the Cow
Disdain'd her cold companions now.
Beasts spoke like men in *Æsop's* days,
And thus spoke Damsel in high phrase.

"While on vile weeds you grazing lie,

"This front has been exalted high:

"While ignorant you live like swine,

"These hoofs have trod in palace fine;

"Admir'd by all, have danc'd around,"

With that—the caper'd on the ground;

While, fill'd with envy and amaze,

The wond'ring herd about her gaze.

But sage old *Cherry* thus reply'd:

"Why, Damsel, this fantastic pride?

"Why so *galant*!—for, let me tell ye,

"Fine prospects will not fill the belly.

"Methinks, tho' you such sights have
seen,

"Your *ladyship* looks mighty thin;

"The dirt hangs dangling from your
side, [hide.

"And stripes, like furrows, mark your

"Then prithee leave such affectation,

"Pride ill becomes your present station.

"Come, feed with me on common clo-
ver.

"Or you will soon be food for *Rover*;

"If right I prophecy—to-morrow,

"You'll chew the cud again with for-
row."

CANTO VI. *The MORAL.*

Such is some country lass's case,
Who hies to town to get a place,
With raptur'd shoes, round mob, straw
Short petticoats, and rustic chat; [hat,
But soon promoted into favour,
For her plain looks, & good behaviour,

She now at Lady's elbow stands,
With silver waiter in her hands;
Worships the lap-dog, fawns on poll,
And learns to languish, lisp, and loll;
Is seen at Vauxhall, and the Park,
And call'd a *Goddess* by her spark;
Her rustic fare is all forsaken,
She sickens at the sight of bacon;
The country clown—she cannot bear
"Lord! how the awkward boobies
stare!"

But having got more wealth than grace,
She in some pet forsakes her place:
And now wheels down—drest like a
Queen,

To the old farm-house on the Green:

In pelerin clad, or silk mantail,

Lac'd shoes, with a morocco heel;

With modish airs, and mincing pace,

And paint, and patches on her face;

So proud, so squeamish, so polite,

She has the vapours every night;

Associates with the Squire's daughter,

And treats with cards—or citron-water.

Old-fashion'd *Whisk* quite shocks her
view—

For she has learnt Quadrille and Loo.

She flights her old companion Joan,

And Goodey Mobson is not known;—

Sighs for assemblies, takes rappee,

And ev'ry morning drinks green tea.

At smell of beef she faints away,

And calls for *sal volatile*;

The milk-maid's song gives her the
spleen,

'Tis all *encore*, and *fugeline*.—

At church has *Ata*—for 'twas the fa-
shion—

And frightens all the congregation.

But when fine airs, and cloaths decay,

And money's squander'd all away,

Plain want declares she is no *Goddess*;

But *Kate* again with beads and boddies.

ON HAPPINESS.

AS happiness is all our aim,
Some seek to purchase it by fame;
Whilst others think in honour lies
The so much wish'd and sought for
prize.

And some, that wealth alone's the thing,

Which can at once this treasure bring:

Health, beauty, wit, we all desire,

For each of these the world admire.

But these are idle, false, and vain,

And oft the source of grief and pain;

The path to happiness, we find,

Leads thro' content and peace of mind.

Constables

Constables and Overseers being liable to penalties on not doing their duty under the late Act for obliging Overseers of the Poor to make returns on oath to questions relative to the State of the Poor, the following Abstract thereof may probably be acceptable to many of our readers.

CLERKS of the Peace, with all convenient speed, are to cause the act to be distributed amongst the acting Justices, and to cause a sufficient number of the schedules, to the said act annexed, to be printed and delivered to the high constables at Midsummer Quarter Sessions, and receive the returns, and transmit the same to the Clerk of the Parliament.

Justices, as soon as conveniently may be after Midsummer Sessions, to appoint a time and place for overseers of the poor to attend with returns and answers to the questions in the schedule, and cause notice thereof to be given to overseers and high constables, requiring their attendance at such meetings for the purpose of the said act.

Justices at such meetings to receive the answers and returns, and administer to overseers the oath contained in the schedule; may examine overseers on oath, touching any matters contained in such questions and answers, and call for accounts of the preceding year, if they see fit; and then deliver such answers and returns to the high constables, or other officers, in order that the same may be transmitted to the Clerks of the Peace.

High Constables at Midsummer Quarter Sessions, 1776, to receive from Clerks of the Peace printed schedules, and deliver one to one of the overseers of the poor of every parish, &c. within their several limits, and when required by the Justices, attend them to receive the answers and returns of the overseers; and indorse on the back of each schedule the name of the hundred or liberty, &c. wherein such parish, township, &c. is situate, and transmit the same, together with a true and perfect list of the names of the overseers of the poor of every parish, &c. to whom such schedules had been delivered as aforesaid, to the Clerks of the Peace, at the next Michaelmas Quarter Sessions, or the adjournment thereof, upon pain of forfeiting 5l.

Overseers are to attend the Justices at such meetings, and deliver in writing, signed by them, a just and true answer and return to the questions upon oath, under the penalty of 5l. To enable them thereto, they are authorized to call for, inspect, or take copies of the accounts of the preceding overseers, who are required to deliver them for that purpose under the like penalty. To be paid for every return from each parish or place; to the Clerk of the Peace, 2s. 6d. High Constable, 1s. 6d. Overseers, 2s. Justices Clerks, 1s. for which an order is to be made on the Treasurers at Michaelmas Sessions.

Penalties and forfeitures, if not immediately paid, to be levied by distress and sale,

CORRESPONDENCE.

AS our Correspondents are now become pretty numerous, and consequently it is impossible for us to insert all their letters at full length, we shall occasionally select the most interesting parts, and give them under the article CORRESPONDENCE.

R—K, of *Ilminster*, observes, that the size of the apertures of spectacles is of material consequence. If they are too large, many of the *oblique* rays of light will fall on the eye, and give it pain. A few direct rays being sufficient for distinct vision, our philosophical spectacle-makers have directed the apertures of their glasses to be contracted from an inch and a half to three quarters; the quantity of light incessantly falling on the eye in the latter is in proportion to the former, as $56\frac{1}{2}$ to 220; hence, a very considerable advantage.

[We think the observation a just one; but cannot recommend any particular maker (there being several very good ones in London) without deviating from our plan.]

A. B. from *Somersetshire*, requests a particular account of the best method to raise stocks for apple trees from the kernels; and in return, promises us a method of raising an advantageous crop of potatoes from the seed, founded on experience; together with some other curious matters in husbandry not generally known.

[Under the article APPLE-TREE in our Dictionary for this month, he will see (we hope) a full answer to his request.—The articles which he promises to send will, when received, be duly acknowledged.]

A *Constant Reader* expected us to prescribe some Medicine for the rickets or goggles in sheep, as this being easily given, would be attended with the least trouble and expence.

[We can assure him, and all our other readers, that the disorder is beyond the reach of *any medicine*,—not even a palliative one, as *Varro* observes, has yet been discovered. And whoever will consider the account that we have given of this distemper, and compare it with the information which he may collect from those Farmers who have unhappily experienced its fatal effects in their flocks, will, we apprehend, have the most potent reasons to think as we do.]

Hesiod, on ploughing in green crops, allows of this species of husbandry as a succedaneum to the want of manure, and where folding would be impracticable; but recommends, from his own practice, the foddering some dry cows in the winter of that year when the land is in grass; by this means the crop of grass amply pays for all the trouble, and the land will be in order for pease, beans, &c. till it is in grass again.

[In

[In dry inclosed lands this may be practised to advantage, and often is so by intelligent Farmers; but there are many who strangely neglect this obviously beneficial piece of husbandry.]

Mr. C. W. recommends foul salt to be sown in order to destroy slugs, or snails in gardens, to which it is certain death; and likewise as a manure for wheat when sown in the spring. "Had Mr. Sylvan recollected another property of salt as well as that of imbibing moisture, he would not have rejected its use [when mixed with hay] as so very absurd; which is that of being the greatest antiseptic in the world."

[We are now reviewing a treatise in which we see there are some remarks on *foul salt* as a manure; our sentiments, if necessary, will then appear: but Mr. C. W.'s meaning is somewhat obscure, for he does not say whether the *salt*, or the *wheat* is to be sown in the spring.

With respect to salt being the *greatest* antiseptic, he is greatly mistaken; for of all the salts that have been made trial of, sea salt resists putrefaction the least; the vegetable bitters are much stronger antiseptics, and so are some aromatic substances, the vinous spirits, &c. For a particular account of which we refer him to Sir John Pringle on the diseases of the army, where he will find, that if sea salt be reckoned equal to unity, or 1, nitre will be as 4, borax 12, salt of amber 20, and alum 30.]

We have received various accounts from different counties about the virtues of salt when mixed with hay. Some absolutely condemn it; others say, their hay "did very well;" and we have other correspondents who speak highly in its favour. They all appeal to their own experience, and this creates the difficulty of ascertaining the particular benefit which the hay receives (if it receives any) from the salt; and this difficulty is farther increased by the want of experiments to determine the quantity of salt required for a ton of hay, and how thick the stratum of hay should be on which the salt is to be sown. This being once ascertained, the discordant opinions may perhaps be more easily reconciled.

Our *Berkshire* correspondent has thrown much light upon the subject; he salted some clover hay which was supposed to have been entirely spoiled, sowing the salt as thick as barley for a crop on every half load through the rick. When the rick was cut, this hay had not the least fragrance, and yet the horses eat it greedily, and both looked and worked as well as usual. He adds, that particular care should be taken that the hay be *very dry* before the salt is used.

From this and some other similar circumstances, on equally good authority, it seems that salt (of which every one knows cattle to be very fond) may be successfully applied to bad hay, that, unmixed with it, they would hardly touch; but then this will by no means justify its indiscriminate use, or prove that it is of any real service to good hay, which in short does not want any such addition.

The

The subject being thus in a rather imperfect state, a particular attention will be paid to the favours of our correspondents, who are enabled from experiments to decide upon it.

Our *Glocester* friend is not forgotten, but his piece was accidentally mislaid; we intend to adopt his hint next month.

Philo-Mechanicus will be farther obliged.

T. L. on the fly in turnips, will be noticed when we treat on that article, which we are still obliged to defer, having mislaid a curious paper written by an ingenious person, who was at the pains to collect various methods proposed in different counties. The letter from Lincolnshire was inserted on good authority.

We cannot possibly give plates of all the hydraulic machines used in foreign countries, to drain or water land, to accompany the Dissertation on the Progress of Agriculture. Many of them have already appeared in other Magazines, particularly those used in Egypt, Persia, Minorca, &c. and are therefore well known. If our correspondent will favour us with drawings of any *new* engine or machine for these purposes, we shall cheerfully comply with his request to have it engraved.

Another constant reader wants to know, why we gave a receipt to make port wine in a *Farmer's Magazine*.—Time *was* indeed, as he well knows, that a Farmer would jog to market with a cask in his pocket, and having drank his pint of *three-halfpenny* ale, would trot home again: but—*tempora mutantur*. Not that we would be thought to suppose it will have the taste and flavour of *genuine* port; but we are very sensible that much worse-tasted, and more unwholesome liquor is sold in many public houses for port wine; and as we received it from a Gentleman who is a particular friend, we were glad to oblige him.

The several articles which we have promised, and others which we have received, will appear in due time; some are designedly postponed on account of the seasons to which they are peculiarly adapted; such as, planting hedges,—the good and bad effects of harrowing wheat in the spring considered, &c. &c.

It cannot be supposed, nor are we so vain as to think, that *every* article inserted in the *Farmer's Magazine* is entirely new to *all* our readers; but we hope the more discerning part will, for the sake of others less intelligent, pardon any *seeming* redundancy, and withhold their censure.

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London	4	5	2	11	Suffolk	4	12	10	2
COUNTIES INLAND.					Norfolk	4	12	10	1
Middlesex	4	9	2	10	Lincoln	4	5	6	2
Surry	4	8	3	5	York	4	10	3	5
Hertford	4	8	2	9	Durham	5	1	3	4
Bedford	4	7	3	0	Northumb.	4	8	4	2
Cambridge	4	6	2	11	Cumberland	4	10	3	5
Huntingdon	4	8	2	9	Westmorel.	5	6	3	6
Northampt.	4	11	2	5	Lancashire	5	6	2	6
Rutland	5	0	2	6	Cheshire	5	3		
Leicester	4	10	3	9	Monmouth	5	3	2	8
Nottingham	5	0	3	3	Somerset	5	3	3	2
Derby	5	3	2	0	Devon	5	8	2	9
Stafford	4	10	3	2	Cornwall	5	0	2	4
Salop	4	10	3	4	Dorset	5	4	2	7
Hereford	4	4			Hampshire	4	6	2	8
Worcester	4	10			Suffex	4	6	2	6
Warwick	5	0			Kent	4	8	2	9
Gloucester	4	10			From Sept. 2, to Sept. 7, 1776.				
Wilts	5	0	4	6	W A L E S.				
Berks	4	7	3	11	No. Wales	5	4	4	0
Oxford	4	11			So. Wales	5	0	3	10
Bucks	4	8			Part of SCOTLAND.				
					Wheat Rye Barley Oats Beans Big	4	0	—	—

The ASSIZE of BREAD, as set by the Lord-Mayor of London, Tuesday, Sept. 24th.

		lb. oz. dr.	
The Penny Loaf, Wheaten,	0	11	2
Household,	0	14	10
Two-penny Loaf, Wheaten,	1	6	4
Household,	1	13	4
Three-penny Loaf, Wheaten,	2	1	6
Household,	2	11	14
To weigh,		To be sold for,	
lb. oz. dr.		s. d.	
The Peck, 17	6 0	Wheaten,	2 1
		Household,	1 7
Half Peck, 8	11 0	Wheaten,	1 0 1/2
		Household,	0 9 1/2
Quartern, 4	5 8	Wheaten,	0 6 1/2
		Household,	0 4 1/2

PRICES of STOCKS.

Bank Stock, shut. India Stock, 167 1/2 a 1/4. South Sea, —. 3 per cent B. Red, shut. 3 per cent Conf. 83 1/2 a 1/4. 3 ditto, 1726, —. 3 1/2 per cent 1758, 85. 4 per cent Con. shut. Old S. S. Ann. 82 1/2 a 3/4. New ditto, Ann. —. 3 per cent. 1751, —. India Ann. shut. Long Ann. 25 1/2 a 1/4. India Bonds, 47 a 48 pr. New Navy Bills, 2 per Ct. disc. —. Scrip, —. Lottery Tickets, 111. 18s.

Price of Hops in the Borough.

New Pockets, - 21. 10s. to 31. 10s.
New Bags, - 21. 00s. to 31. 00s.
Old Pockets, - 21. 05s. to 31. 05s.
Old Bags, - 21. 0s. to 21. 14s.

PRICE of CORN at MARK-LANE. Monday, Sept. 23.

Wheat, per quarter,	34s to 41s od
Barley, - - -	17s to 22s od
Rye, - - -	24s to 25s od
Brown Malt, -	23s to 27s od
Pale ditto, -	23s to 29s od
Oats, - - -	12s to 17s 6d
Essex Beans, -	24s to 26s od
Tick, - - -	28s to 31s od
Boiling Pease, -	32s to 33s od
Hog ditto, -	24s to 26s od
Tares, - - -	24s to 30s od
Fine Flour, per Sack, -	31s
Second ditto, - - -	28s
Third ditto, - - -	25s

Return of the Sale of Wheat at Bear-Key, Monday, Sept. 9.

67 Q. at 39s. od.	378 Q. at 36s. od.
448 do. at 38s. 6d.	92 do. at 35s. 6d.
472 do. at 37s. 6d.	107 do. at 33s. 6d.
536 do. at 35s. od.	6 do. at 33s. od.
150 do. at 37s. od.	40 do. at 32s. od.
157 do. at 35s. od.	

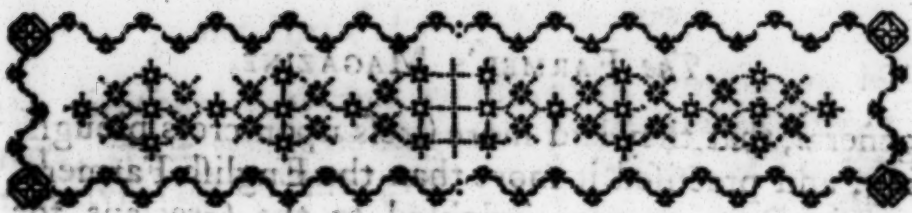
WHITECHAPEL.

Hay, 31. 03s. to 41. 12s. } Lead.
Straw, 11. 6s. to 11. 10s. } Ton.

SMITHFIELD-MARKET.

Beef, per stone, 2s. 8d.
Veal, - - - 3s. od.
Mutton, - - 3s. od.
Lamb, - - - 3s. od.





T H E

FARMER'S MAGAZINE.

A DISSERTATION on the Progress and present State of AGRICULTURE; with a concise Account of the best English Writers on the subject. [Continued.]

WE could now with great pleasure attend to the advantages which our ancestors received from the settlement of the Romans among them; but, to avoid a repetition, we must reserve this part till we come to treat of the improvements of agriculture in this island. For regularly as they extended their conquests, they appear equally to have erected stations for themselves, and to have constructed cities for the Britons; so that the progress of their arms was distinctly marked by the progress of cultivation, and the face of the country gradually brightened up as the line of their conquests advanced.

They were very attentive to agriculture, wherever they carried their victorious arms. It has been generally imagined that they first discovered marle, and applied it as a manure in this kingdom; but Mr. Whitaker, in his history of Manchester, controverts this notion, and says, that the Roman Farmers were totally unacquainted with marle. They had so high an idea of fallowing, and practised it so much, that they seldom sowed any seed but upon fallow; from which circumstance our modern husbandmen will entertain no very favourable opinion of their skill in husbandry. We think however, in

general, that they laid more stress upon cross ploughing, and practised it more than the English Farmers.

The Romans were indebted to the Grecians for the improvement of their wines; the best of which were produced in the county of Capua. Domitian passed an edict for destroying all the vines, and that no more should be planted throughout the greatest part of the West; which continued till the time of Probus; almost two hundred years. Some of the ancients have endeavoured to prove, that the cultivation of vines is more beneficial than any other kind of husbandry; but, if this was thought so in the time of Columella, it is very different at present even in the warmer climates; nor were all the ancients of his opinion, for several gave the preference to pasture lands.

The breeding of cattle has been considered as an important part of agriculture. We have already observed, that the riches of Abraham, Laban, and Job, consisted in their flocks and herds; and that the wealth of *Latinus* in Virgil, and *Ulysses* in Homer, those so-much-celebrated princes, consisted in cattle. It was likewise the same among the Romans till the introduction of money, which fixed a value upon commodities, and established a new kind of barter.

Luxury, avarice, injustice, violence, and ambition, take up their ordinary residence in populous cities; while the hard and laborious life of the Husbandman will not admit of these vices. The honest Farmer lives in a wise and happy state, which inclines him to justice, temperance, sobriety, sincerity, and every virtue that can dignify the human nature. This gave room for the poets to feign, that Astræa, the goddess of justice, had her last residence among Husbandmen, before she quitted the earth. Without the industry of the Farmer, the manufacturer would have no goods to supply the merchant, nor the

the merchant find any employment for the mariners; trade would be stagnated; riches would be of no advantage to the great; and labour of no service to the poor.—To return from this pleasing digression:

Their writers are pretty numerous. Cato, the censor, that illustrious Roman general, orator, politician and lawyer, after having governed provinces, and subdued nations, did not think it below his station to write a large treatise on agriculture. This work, according to Servius, was dedicated to his own son, and was the first Latin treatise on that subject. This work has been handed down to us in all its primitive purity. He was of opinion, that the feeding of cattle was the most certain and speedy method of enriching a country.

Varro composed a more regular treatise on the same subject; embellished with all the Greek and Latin erudition of that learned author. He has given us an extensive account of all the beasts that are of any use to the country, either for tillage, breed, carriage, or other conveniences of man. Agriculture also received farther improvements from the two Satornaes, Scorsia, Tremellius, Julius Græcinus, Vegetus, Palladius, and M. Terentius.

Virgil, who however seems to have written from his own experience, has adorned it with the language of the Muses, and given it majesty by his verse. He has finely embellished the precepts of husbandry left by Hesiod and Mago.

Columella, a native of Bætica in Spain, studied agriculture in the reign of the Emperor Claudius, and wrote twelve books on husbandry. He seems to have intended his tenth book as a supplement to Virgil's Georgicks. He complained much of people's leaving the management of their farms to bad servants: all good bailiffs and land stewards were from him called Columellas.

From

From this time husbandry began to decline, and continued in a declining state till the reign of Constantine the Great. That wise Emperor collected (or, as some say, marked with his own hand) all the most useful precepts relating to agriculture from the best writers, and then published them under the title of Geoponics. After he had conquered the Saracens and Arabians, he not only studied but practised the arts of peace, fixing his chief attention on the advancement of husbandry.

But from his time till the year 1478 this art lay in a rather dormant state, when Crescenzo published an excellent performance at Florence. He was soon followed by several of his countrymen, among whom Tatti, Stefano, Augustino Gallo, Sansovino, Lauro, and Tarello, deserve particular honour.

About 1330, the inhabitants of Italy were strangers to many of the conveniences of life; they were awkward in the cultivation of their vines; the common people were just beginning to wear shirts. The Florentines at that time were the only people of Italy who traded with England and France, and had twenty per cent. interest for their money, which was always acceptable to those nations, as they were continually embroiled in wars.

Pope Sixtus (1584) forced his subjects to work that they might pay the heavy taxes imposed on them; he made them happy and contented, and himself rich and powerful. He found them sunk in sloth, over-run with pride and poverty, and lost to all sense of civil duties; but he recovered them from that despicable state to industry, and then to plenty and regularity. He effected this by a plain maxim, the practice of which, however, none but a great genius could have enforced, which was, that a people not pressed by taxes are apt to grow indolent, and that industry is the only source of riches and plenty to a state. Though he sat no more than six
years

years on the Papal Throne, he found the truth of this maxim remarkably verified.

During the war with Spain, a tax was imposed upon fruit; and as fruits were not only the chief delicacies, but the chief subsistence of the Neapolitans, this imposition drove them from all patience and moderation. The severity of the government in raising taxes suffered none of them to be idle, and their industry must have made them a great and powerful people, had they been governed by Princes of their own, residing among themselves.

The Neapolitans have now condescended to return back to the first rudiments of revived husbandry, and have begun to study afresh the agriculture of Crescenzo. The people of Bergamo have pursued the same track, and have given the world a new edition of Tarello's *Ricordo d'Agricoltura*, which was originally published at Mantua 1577.

The Duchy of Tuscany has imbibed the same spirit. A private gentleman has lately left his whole fortune to endow an Academy of Agriculture. The first ecclesiastic in the Duchy is president of the society, and many of the chief nobility are members. Even Ferrara, a small territory in the papal dominions, has contributed its just contingent, and made some laudable attempts in husbandry.

According to the Heathen Mythology, Ceres was born in Sicily, [Sicania] where she taught the inhabitants of Enna the art of agriculture. The city of Enna was on this account consecrated to Ceres and her daughter Proserpine.

Gelon, their first Tyrant, being afterwards elected king, made agriculture one of the chief objects of his attention. He animated the husbandmen by his presence, and took delight in employing his spare hours in working with them in the fields.

Hiero, another of their tyrants and afterwards king, took particular care to encourage agriculture, which
he

he looked upon as the certain means to diffuse abundance among his people. He did not think it unworthy of the sovereignty to study that art; and even composed a book on the subject, of which the loss is greatly to be regretted. As the chief riches of the country consisted in corn, the tenth part of which was paid to the king, Hiero made such wise and equitable regulations on this head, between the farmers and the corn-tax gatherers, respecting the time and manner of payment, that they in a manner became the fundamental laws of the country, being observed in all succeeding times, even by the Romans after they had conquered the island. He concluded an alliance with the Romans, to whom he sent from time to time supplies of provisions to their armies. He sent them at one time 300,000 modii of wheat, and 200,000 modii of barley, with the offers of what quantity more they wanted. He built an infinite number of ships for the exportation of corn, in which (as already mentioned) the greatest riches of the island consisted. When there was a famine in Egypt he sent 300,000 quarters of corn to Ptolemy, with an immense quantity of provisions.

When the Romans made themselves masters of Sicily, 212 years before Christ, they reduced the whole into one province. This fruitful country produced corn an hundred fold, hence from this time it became the granary of Rome.

[To be continued.]

[As American affairs are the universal topic of conversation, we propose in the next number to give a concise account of American Husbandry, which will be continued in this Dissertation; and we have no doubt of its affording general satisfaction to our readers.]

ARTICLE

ARTICLE II.

COLUMELLA'S Dissertation on the different Kinds of Manure.—Continued.

PARING and burning land, or as some call it, burn-beaking, burn-baiting, or denshiring, is much practised in some counties, and is in general too well understood to require any particular directions how to perform it.

Authorities equally respectable may be produced both for and against its utility. I have attended to the arguments advanced in support of the different opinions, as well as to the different methods of managing and cropping the land intended to be improved by this means, and from thence I shall always acknowledge myself an advocate for this species of improvement when duly and properly applied. In the Northern counties they pare and burn for turnips; an excellent method: in the West they burn-bait for wheat. It is not however absolutely essential to its success to prefer one crop before another; this will depend on the nature of the soil, the course of crops, with other concurring circumstances, of which the occupier of the land will best judge for himself.

Having already* given a pretty full account of the nature of ashes deduced from their obvious effects, I shall pass on to consider the objections usually urged against burn-baiting, which are, first, that it reduces the staple of the soil; and, secondly, that though several good crops may be obtained, yet these frequently leave the land in an almost barren state, so that it will require fifteen or twenty years rest to restore it to its former condition.

With respect to the first objection, this certainly soon would be the consequence, if repeated at short intervals on very rich soils, without the addition of lime, dung, compost, &c. I recollect an instance of a Farmer paring and burning a thin piece of land; he then sowed it with wheat, and had a good crop. He took another crop or two, and laid it down with clover. In about two years more he pared and burned it again, and repeated this till he left little else besides the naked chalky rock. Nobody was surprized; it was natural and inevitable. A single instance of this kind is more than sufficient to create an invincible prejudice in those persons, who being strangers to the principles of agriculture, are too apt to determine from hear-say experiments.

VOL. I.

F f

That

* See our last, p. 177.

That part of the soil is burned to ashes, and consequently reduced in substance, is demonstrable. The author of the *Farmer's Letters* thinks differently; "I am of opinion, says he, that soil cannot be reduced to ashes; but in this, experiment should decide. A strong confirmation of this notion is the well-known fact, that land cannot be burned till it has acquired a turf—that is, till it has gained the thickness which was destroyed by the last burning."—In answer, I can assure him, that clay may with ease be burnt to ashes; which entirely overturns all his arguments, for he gives us no reasons. The common method of burning the turf dug out of drains, six or seven inches deep, is a full confutation of this author's notions. A Gentleman of fortune lately informed me of his having burnt a large quantity of stiffish soil to ashes by the old method of laying the earth and some faggot wood, *stratum super stratum*. Pure sand, it is true, will not burn; it is not acted upon but by a strong fire, and this would change it into a vitreous substance.

The diminution of the soil is in part restored by the atmosphere, stubble, weeds, &c. but in too small a proportion to admit of a speedy repetition of the practice without the aid of manure, the rock upon which so many have split. They forget that burning cannot possibly *add* any thing to the soil. It produces those salts that are not attainable by any other process, and which from experience we know make the land fertile, are easily soluble, and soon exhausted; hence this manure may be ranked among the temporary or forcing ones. Black moory land being commonly deep, receives all the benefit of burn-baiting without any of its ill consequences from a too speedy repetition.

From what has been said in answer to the first objection, it will not be difficult to conceive why several large crops, which are commonly obtained by burn-baiting, impoverish soils to such a great degree: For as burning *adds* nothing, the consequent barrenness, unless some manure be timely applied, is certain and unavoidable. In Devonshire they mix sea sand or lime with the *bait*, (as they call the ashes) being well convinced, from long experience, of the great injury which the land sustains by burning the turf and taking successive crops without some suitable addition.

It may be asked how often burn-baiting may be repeated in any given time? To this I should reply, that it is hardly possible to ascertain it with any precision; it depends upon too many contingent circumstances to admit of a direct or satisfactory

factory answer. I should not chuse to repeat it in less than twice seven years, the deep fens, or moors excepted, being not convinced of its necessity, and by no means of its utility: This however is, with proper deference, submitted to better judgments.

The thinner the turf is pared in common soils, in my humble opinion, the better. There will always be a sufficient quantity of ashes, however thin the turf be pared, which, with a small quantity of lime, or other manure, will be abundantly more beneficial to the land, and of consequence to the occupier, as being more permanent, than the other method of paring thick in order to obtain a large quantity of ashes; and the process may then be the sooner repeated. Though it must not be forgotten that some soils will yield abundantly more ashes than others; the sandy ones, as before observed, yield the fewest. The fire should not be too fierce; for some soils will vitrefy with a strong clear fire, that would be much improved by a moderate one.

Thus we see the reason why burn-baiting may be very prejudicial; and also why it may be used with such singular advantage in breaking up old pastures. Its efficacy is in fact too well established by a very extensive and long-continued practice in many parts of the kingdom; and there is perhaps no other mode or process whereby rushy, fenny, or coarse four pasture land can be prepared for a crop of corn so cheaply and expeditiously; besides its destroying all kinds of insects and other vermin; together with the weeds of every kind; it ought not therefore to be condemned merely on account of its having been injudiciously applied.

Some have talked of the ashes being liable to be blown away by the wind; but I never heard a person who had much experience in burn-baiting mention such an idle, frivolous objection. I shall say nothing about the price of paring and burning; every one knows it is sufficiently cheap.

Before I conclude this letter it may not be amiss just to hint, that the well-known remark of the corn being stronger where the heaps of couch have been burned, is a striking proof of the richness of the salts obtained by burning vegetables, &c. and yet I know many who seldom or never burn their couch, but carry it off and lay it in heaps to rot.

[To be continued.]

[The author above alluded to, in his "Tour to the North," if we mistake not, for it is not now before us, mentions some unsuccessful attempts to burn clay to ashes by the Marquis of Rockingham.

With a slow fire it made brick, and when the fire was urged the clay vitrefied. As he made no remarks on the reason of its failure, (though he is pretty ready with them on most occasions) we have always concluded that he was a stranger to the principles on which the success depends. We have conversed with many Farmers, Brick-makers, &c. but though they have sometimes succeeded, yet they could never discover the reason why the common process more generally fails. We have tried many experiments with a view to ascertain this, and have, we think, succeeded; but as our good friend COLUMELLA seems to understand it so well, he would confer a lasting obligation on us, and the publick, by favouring us with his method.]

ARTICLE III.

On the Diseases of Cattle, with their Remedies.

By Mr. C. WILLIAMSON.—Continued.

On Epidemic Diseases.

THESE are as difficult to account for in the brute as in the human part of the creation; and I do not find satisfactory accounts, at least they are not so to me, given by those writers who have so learnedly treated on them. Suffice it, if we could get a cure; the management of cattle is not now in the hands of philosophers, physicians, or kings,—but of simple countrymen, who, favourable enough to the beasts, know how to tend them in health, but seldom to provide for them in sickness. This has given rise to men named *Cowleeches*, who, without pretending to philosophy, are possessed of numberless receipts, of which some are good, some bad, and others neither; and some are so *honest*, that they give one medicine for all disorders; thus, although epidemic diseases have been terrible in their effects, yet to a total want of care, or improper applications, I am apt to ascribe more than half the calamity.

Diseases which become epidemic are pronounced contagious; and an affection of the air is sometimes supposed to be an infection of animal to animal. Thus, an ingenious Physician told me, that in the late Influenza, although the air was affected, he could not observe that the disorder itself was infectious. Upon a supposition that the epidemic disorder among cattle was contagious, greater pains were taken to ward off putrescence never discovered than to cure the symptoms, or preserve so useful, so good an animal. Symptoms alone must

must direct the means for cure ; not that I would totally neglect to guard against every possible infection.

The arguments used in behalf of contagion are, that all the animals which died shewed evident marks of putrefaction ;—agreed :—but was not this putrefaction consequent of inflammation ?—Will not physicians tell us, that inflammations which end fatally, are putrid ?—Should we for that reason during the inflammation guard only against putrefaction or mortification, neglecting those occasions of helping a disease already contracted to pursue only what may happen—and, happening, proves incurable ? I dare say, neither Hippocrates, nor any physician from his days to the present, pretended to cure a mortification of any of the viscera, or ever gave gangrenous medicines for a cough, or inflammation of the lungs, stomach, &c. I should never have gone so far from my subject as to have treated on phycic, if physicians had not meddled with cattle. *Ne sutor ultra crepidam.*

The misfortune has been, that writers have in general less practice than theory. I consider theory without practice as a house without furniture ; and thus we are all along led by speculative authors to consider the diseases of horses and cows as similar ; an erroneous, and often a fatal mistake, when the only original distinction of animals chewing or not chewing the cud is sufficient to overset such theory. I do not mean to be angry, and would advise every man's thoughts to be published when not contrary to the good government of church or state ; but then cases which are partially stated should never be adduced, they should say only, *this is my opinion,—this I believe to be the state of the matter.* Thus to prove the argument by myself, I take epidemic complaints not as diseases peculiar to a month, or year, but that they are incident to cows at another time, and come under the diseases of cows ; and that the symptoms will tell an intelligent person what remedies are to be applied, only they are sometimes more rise than at other times. The principal of our time have been inflammatory, and if neglected they became putrid ; these should be treated with cooling nitrous medicines, and bleeding, &c.

Whatever various diseases may be infectious, as any one may be so, they must be variously treated, for no rules can be laid down to answer all occasions.

[We shall never hesitate to express our dissent when we think any of our correspondents render it necessary. We do not suppose that every epidemic distemper is contagious ; but that the distemper called

called the Murrain, which raged among the horned cattle some years since was so, is incontestible. The argument from dead cattle shewing evident marks of putrefaction, was neither the only one, nor the most cogent, to prove the distemper contagious; but we cannot now recur to the particular state of the distemper, or the methods pursued to prevent or cure it. Mr. W. asks "if the putrefaction was not consequent of inflammation?" undoubtedly it was; and was not inflammation the infallible consequence of infection? However, if we have mistaken his meaning, we shall readily acknowledge our mistake.]

Yellows, Overflowing of the Gall, or Jaundice.

This is a most frequent disorder that this useful beast is liable to, and peculiarly demands care, as it often brings on murrain, lark or scowering, dropsy, &c. but is soon discoverable by the gall's running all over the cellular membrane, and tinging the eyes, and is the same disease as the jaundice in man; the beast becomes sluggish, and the cow loses her milk and loaths her food, and she becomes weak and totters in her gait; and the hair starts.

The remedies depend on the state of the dung. If the beast does not scower, but has dunged orderly,

Take a handful of celandine, boil it in a quart of water to a pint; to the strained liquor add one ounce of turmeric, and half an ounce of coriander seeds in powder, for a drink every morning;

Or, Take liquorice root, anniseeds, and turmeric root, each in powder, one ounce, for a dose every morning in warm ale.

If the beast should scower at the same time, add, a handful of mugwort or wormwood, one ounce of tormentil root, and boil a few minutes in a pint of water; add one ounce of armenian bole, and half an ounce of mithridate, for a dose; giving a restraining clyster every night. See *Farm. Mag.* p. 172.

If the beast should be very weak, and neglect her food, (which should be good hay) let some slices of bread soaked in ale be frequently given; this will support amazingly, and be of the most infinite service in a scowering; with the yellows green meat should be particularly avoided, and bran with a handful of rice in it be set before her for food.

Barbs.

These are a troublesome enlargement of the barbs or tusks, in its mouth, within the lips, &c. which sometimes are so much inflamed and sore as to render the beast incapable of eating.—The remedy is, to clip them off with a pair of sharp scissars, and then rub them with salt.

Murrain.

Murrain.

This is to cattle what the plague is to mankind, and thanks to the Almighty, not much known with us:—the symptoms are, the head swells, the eyes run, and the breath becomes very short and rattles.

ARTICLE IV.

Remedy for the Scour in a Cow.

MR. SYLVAN,

THERE is hardly any worse disorder to which a cow is subject than the scour. If it is not stopped at first, it commonly proves mortal. You have published a good receipt in those rules for managing cattle, by your correspondent C. WILLIAMSON. It is plain he writes from experience, and not from books, for otherwise he could not speak so much to the purpose as he does, and this pleases me. I suppose you have no objection to publish another receipt for this disorder, which is one of the best, I believe, that ever was invented or prescribed for it, and seldom or never fails if given as soon as the scouring shews itself. I suppose most of your readers know that fine hay should not be given to a cow in this disorder, as it will much increase her scouring; and it will sometimes bring it on for a little time.

Take of pomegranate peel, two ounces; shavings or raspings of logwood, two ounces; and of the shavings or raspings of brazil wood, one ounce. Boil the whole in two quarts of cyder, and give it warm.

A WEST-COUNTRY FARMER.

[From considering the medicinal and specific virtues of the several ingredients, we are authorized to pronounce the above recipe an exceeding good one, independent of what we could alledge from the experience of our correspondent, with whom we have been some time acquainted.]

ARTICLE V.

On the great Benefit of mowing Broad Clover, Lucerne, &c. several times in one summer; and of repeatedly feeding off Pasture Lands as soon as there is a sufficient Bite for Cattle; with a recommendation of Sheep's Fescue for Winter Feed.

HAVING promised our readers some useful extracts from the Essays on Agriculture, we now present them with the following:

It

This Author says,—It will in general be allowed, that broad clover and lucerne are more advantageously consumed when cut and given green by the hand than when pastured upon; because as soon as they are mowed they vegetate afresh during the summer season, and being repeatedly mowed produce a much greater crop of *forage* than if they had been allowed to bring their seeds to maturity. For it is observable of almost all the succulent plants, that they advance with great rapidity until they have nearly attained their full growth; after which they advance more slowly till they have done growing. Now if the clover, &c. be always cut just before it has done growing, it will always be in a state of vigorous vegetation.

This is still more apparent with regard to lucerne than broad clover. This plant, if allowed to come to its full size, will, in a good soil, attain the height of four feet in one season; but I myself have cut this plant six times in one season, allowing it to be about twenty inches high before each cutting; which gives upwards of ten feet for the growth of one year. Though it be acknowledged that the shoots obtained in consequence of frequent cutting, would not contain such a quantity of solid matter as the equal weight of the ripe stalks, yet it does not seem at all probable that the difference in this respect would nearly counterbalance the others.

By accurate observations any one may soon be satisfied, that if the flower-stalks of the greater part of the culmiferous grasses* are destroyed after they are fully formed, the plants do not attempt to form other flower-stalks that season, but run afterwards chiefly to leaves, and spread by their roots. Now if in this state these plants are allowed to remain for any considerable length of time, without being either pastured upon or cut, the leaves gradually stop from growing, remain after that for some time stationary, and then fade away, if they are not so luxuriant as to rot. But if these plants had been mowed, or a-fresh cropped by animals pastured upon them several times, the vegetation would at each time have been renewed, and the field would have produced perhaps five or six times more than if this repeated cropping had been omitted. This I once had an opportunity of being satisfied of experimentally with regard to two plants of sheep's fescue which grew upon the same soil, and were in equal health. About the beginning of June the leaves were six inches long, and after that remained quite stationary for some weeks, when I cut off all the leaves of one plant close to the ground, and in a few days it

* *Culmiferous* plants are such as have an erect hollow jointed stalk.

it pushed out a set of fresh leaves with great vigour. These were cut three or four times during the season at about three inches high each time; while it was not possible to remark the smallest increase of one blade upon the other plant during all that time. From this reasoning and experiment it should seem that if grass is to be either mowed or sed off, it is the greatest want of economy to allow it to remain too long between each of these operations.

Although it may be presumed that, in general, instinct points out to animals the plants that are hurtful to them, or the reverse; yet experience shews that this cannot be relied on as an invariable guide—among domestic animals at least; which, by having little freedom of choice, have their taste in all probability depraved as well as that of the human species. I have seen an ox that could not on any account be prevailed with to eat turnips; and there are few oxen that do not at first eat them with some degree of reluctance; yet it is very well known that few kinds of food are more palatable to them after they have been once accustomed to it. So sheep that have been accustomed to eat furze, brouse upon them at all times greedily, and prefer them to almost every other kind of food; whereas others that have not been accustomed to this plant, will never touch it till they are reduced to the greatest extremity by hunger. And if the reluctance that an animal may shew to eat any plant does not always indicate that it is unwholesome, so neither does their eating it at first freely afford a certain proof that it is innoxious. Thus Linnaeus observes, that animals which have been accustomed to feed in the open fields, are frequently hurt when removed into wood lands, by eating plants that are pernicious to them, which the cattle that had been bred in those lands learned by experience to avoid. Here then it is experience, and not instinct, that guards from danger.

Although it is well known that common rye-grass, and many other sorts of grass commonly found in our fields and meadows, send out some fresh shoots during mild weather in winter, so as to assume a kind of verdure in rich grounds in a very short time after the frosts are gone; yet it is well known, that every leaf of this plant is quickly killed by any frost, and that the verdure during the winter is owing to a fresh vegetation from the roots. This happens to be so generally the case, that we perhaps with too much precipitancy conclude, that it is universally so; but I have good reason to believe that there are several species of grasses whose leaves are only

in part killed by cold, and some that resist the severest winters we ever have in this climate, without being more affected by it than our common ever-green shrubs and trees.

This seems to be in a particular manner the case with regard to the valuable grass called the sheep's fescue [*festuca ovina*.] I find that if it is allowed to advance before winter to a considerable height, the leaves retain their verdure during all that season. I had a small patch of this grass in the winter 1773, which having been cut in August or September preceding, and not fed afterwards, advanced before winter five or six inches, and formed the clearest pile that can be imagined. And though we had about six weeks of very intense frost and snow, and about six weeks more of keen frost every night, with frequent thaws in the day-time, so that almost every green thing was destroyed; yet this little patch continued all along to retain as fine a verdure as any meadow in the month of May: hardly a point of a leaf having been withered by the uncommon severity of the weather. And as this grass begins to vegetate very early in the spring, I leave the reader to judge what may be the value of a field of grass of this kind in these circumstances.

[The preceding remarks are selected without paying any regard to the author's method of arranging his hints. We could gladly add what he says relative to introducing shrubs, plants, and roots from colder climates where they resist the most intense frosts, and are yet unable to bear a much less degree of cold in this island; but this, for want of room, we are obliged to postpone till our next.]

* * * The description and cultivation of Lucerne, Burnet, and Sheep's Fescue, will be given in our next.

ARTICLE VI.

A Receipt to cure the Itch.

Mr. SYLVAN,

AMONGST the many valuable Receipts in your *Farmer's Magazine*, I presume one for that hateful distemper, commonly called the Itch, (which so frequently happens amongst servants in farm-houses) will be acceptable. I have been frequently an eye-witness of its amazing good effects, and therefore present you with it for the general benefit of mankind; and if my poor abilities appear worthy your notice, I may occasionally furnish you with some useful Family Receipts for different purposes.

Your's, &c.

FABIUS PICTOR.

Recipe

Recipe for curing the Itch.

TAKE black brimstone, and spirit of turpentine, of each two-penny worth, put them together in a phial bottle, shake it well together, and let it stand till next morning. Then as soon as you rise, shake the bottle and pour out a few drops into the palm of your hand; rub your hands together, and after gently warming them by the fire, smell to your hands strongly; repeat this half a dozen times every morning, and in about a fortnight you will find yourself amazingly benefited, and perhaps quite cured, which will certainly be the case unless you have it to an extreme degree; but be sure to make use of it as soon as possible after you have been infected.

[Under the article *ANIMALCULE* in the Dictionary annexed to our Magazine, we have expressed our sentiments with respect to the origin of this odious disease; and at the same time briefly hinted the reasons why mercurials are not, and why sulphur is, infallible, in the cure, which we know is confirmed by abundant experience. Instances occur where a salivation has failed, where people have had both the plague and the itch, and have recovered from the former, while the latter still continued as obstinate and as far removed from a cure as ever. Nothing farther seems requisite to prove it to be a disorder *sui generis*.

It has indeed long been known that animalcules constitute or form the disorder in question; hence bleeding, purging, &c. are of no service unless they are prescribed to counteract the sudden check given to perspiration by improper unguents, or lotions.

These animalcules deposit their eggs in the skin, which is their proper nidus, (for they never enter the blood) where they multiply very rapidly, but much fastest in those parts that are kept the warmest. An exception may possibly be taken with regard to the hands, but this is principally owing to their being so much exposed to the action of the nails. Their eggs are at first deposited upon the veins, (which may be clearly discovered in thin people) well knowing by instinct, like other ovarious animals, how essential heat is to their propagation. While the disease is recent it seems to be periodical; for we have observed the pustules ripen a day or two sooner about the shoulders than upon the arms near the elbows; and these last again are succeeded by others at the wrists and fingers; this is in part owing to the different degrees of warmth; but when the pustules are ripe, several days often intervene before the next eruption, when the same regularity during the increase of the disorder may be again and again observed. During these intervals the several parts are for a day or two often free from those irritations or titillations which these detested animals excite.

The weather has a powerful influence in retarding or increasing the disease, for in winter the eggs are not so soon hatched as in summer; and it is well known, that the animals seem torpid in the cold, but soon become active enough with heat, whether by the fire, or in the bed.

The source of the disease being thus ascertained, the cure cannot be difficult. It consists in changing the cloaths, linen, &c. (for the animals and their eggs will adhere to one's linen, the sheets, &c. so as still to propagate afresh) and a warm unction with brimstone, lard, and a little sal ammoniac, well rubbed in, but not in too large quantities; for this ointment does not cure like salve applied to a wound, brimstone having no such specific property, being wholesome and friendly to most if not all animals, though its suffocating vapour is the reverse in the highest degree. How soon will a single match, if lighted and put into a bee-hive, destroy ten thousand of those animals!

The ointment may be perfumed with essence of lemons; and the scabs are large and the disorder inveterate, a little sugar of lead may safely be added, to make it more desiccative. The cure will be facilitated by warming the bed and drinking some warm liquor at getting into it.

There is another disorder incident to children that is confounded with the itch, being often mistaken for it; this is a slight taint of the *lues* communicated by parents, and nurses. It may be distinguished from the itch by its seeming to be cured, and in a few days breaking out again with great virulence, having at the same time a red, inflammatory appearance. Besides, pustules in the true itch are always distinct, till they are united and scabs are formed by repeated scratchings; but the disease alluded to will break out in large titters like the scurvy, and is frequently, though improperly, called the scorbutic itch—several of these instances have fallen under our observation.

We shall conclude with observing, that while the itch is recent, almost any acrid lotion, such as dock root, white hellebore, &c. will cure it.]

ARTICLE VII.

To prevent the Thrush, or White-Mouth, in young Children.

S I R,

I Need not describe this troublesome disorder, called by some the White-mouth from this peculiar symptom, and to which infants are subject. Mr. Gouch, in his *Practical Treatise on wounds, &c.* after twenty years experience of its efficacy, mentions a cure for even the worst kind of thrush in bad fevers; this is a dram of borax in very fine powder mixed up with an ounce of pure honey, in common cases; in more inveterate

inveterate ones, two drams of borax, but never more, may be used. The patient is directed to take a tea-spoonful or two of this linctus every hour, (previously stirring it well together) swallowing it leisurely, and in such a manner as it may spread itself all over the mouth and throat. Mr. G. says, he seldom knew a bad thrush resist the power of this medicine more than two or three days if it was regularly used. Where honey disagrees with the constitution, the borax may be mixed up with currant jelly and syrup of mulberries. But as prevention is still better than the best remedy, I send you the following easy method to prevent it in infants.

Take the child's clout when well moistened with its own urine, and rub the mouth and gums well with it once or twice every day, from its birth till it is three weeks or a month old.

I have never known it fail; and the nurses to whom I have communicated this simple nostrum confirm this account of its efficacy; and assure me at the same time, that when they have omitted to apply it, the child has commonly been troubled more or less with this disorder. I am, &c.

Sept. 10th, 1776.

CLERICUS.

[We are greatly indebted to this correspondent for his favours.]

ARTICLE VIII.

Query, from a Country Gentleman, relative to a Field infested with Earwigs.

MR. SYLVAN,

I Have a piece of hilly ground so much infested with Earwigs that it is quite useless at present, though it might be turned to great advantage if I could meet with an effectual method of destroying them. I shall therefore be obliged to you, or to any of your correspondents, to teach me how to get rid of or destroy these vermin. Your inserting this in your next Magazine will oblige

Sept. 12th, 1776.

A NEW PURCHASER.

[This case is a singular one. When insects of any kind become so very numerous it is extremely difficult to exterminate them; this is felt to an uncommon degree in the island of Grenada, where the ants (as we have remarked in our Dictionary) are so incredibly numerous, that they threaten nothing less than the total destruction of the sugar-cane. The public prints now inform us that 70,000*l.* has been offered for a method to destroy those pernicious insects.

In

In trying some experiments (though we are not fond of torturing animals) we do not recollect one single insect, the earwig not excepted, that lived a minute after dropping a small portion of oil upon its head. A strong brine had very little effect upon the earwigs, at least it did not kill them in any reasonable time. *Stercus humanum* is esteemed fatal to ants; and Mr. Varlo says it may be reduced to powder by mixing roach lime with it; by roach lime, we suppose, he means *quick* lime. The earth from bogs spread upon land has been found destructive to the cock chaffer, called in some places the humbuz; in others it is called the beetle, or caterpillar; a very destructive insect to wheat in the spring. This last insect is three years before it takes wing; and is commonly found in the land in form of a short, thick, white grub, with a brown head.

Whether oil would be too expensive, or whether it can be successfully applied, or, lastly, whether any other method, by lime, foot, or paring and burning, would destroy the earwigs, is not possible to determine without experiments. If the land, however, be valuable, it may be worth our correspondent's while to try some of them, particularly the earth from a bog. The sentiments of our correspondents on this subject are particularly requested.]

ARTICLE IX.

On ploughing different Soils, ploughing with two Horses, &c.

MR. AGRICOLA SYLVAN,

I Am now inclined to say a few words about ploughing.---- Writers, I know, differ much in their accounts and directions, each being fondest of his own favourite system, but no one particular rule can be laid down. Some say that light land cannot be ploughed too often, and pretend that one extraordinary ploughing is equal to dunging the land; but I never found it so, neither in my own nor in my neighbours' practice; nor is it the great number of ploughings, but well-timed ploughings, that are of most service. I believe many of our writers and experiment-makers chuse land that either has not been lately tilled, or has been in the hands of some sloven; from either of which circumstances good husbandry will produce large crops, and then they cry up what their culture and management have done, as though other people did not understand this as well as themselves. Let them take a piece of land that has been under good husbandry for half a score years, and then let us see what extraordinary feats they can perform more than the common Farmer.

We often read and hear of ploughing with two horses; but I never saw this done in deep strong land, though I have seen
it

it attempted. The land, it is true, was tumbled over, but in a strange manner, for I cannot call it ploughing, and at a little more than half its depth. There are some Noblemen and Gentlemen of Fortune that think we Farmers strange, obstinate, perverse people, to plough with four horses, when two, as they think, would do as well. I have seen their light tin-head ploughs, such as a boy could carry; but let them come with these minnikin ploughs and two horses into the clay soils in May, when we want to break them up, then I fancy we shall see fine work, or, if the weather be very dry, perhaps no work at all. Obstinate as they may *think* us to be, we are pretty well even with them, for we *know* they are so. What signifies people talking of the sandy soils in Norfolk, or indeed any other county.

Those who say that light sandy soils cannot be ploughed too often, talk of what they know but little about; but this is just like those writers who want to establish one general rule all over the kingdom; and this is to be made from some experiments that they have tried on some particular farm, or perhaps in some particular field, or, it may be, part of a field. Light land that is naturally rich and good will bear frequent ploughings, while that which is poor and of a loose texture, like dust, would be ruined by such treatment. This last soil should be ploughed seldom, and always (if possible) in moist weather, that it may sadden and get firm; for if it be ploughed in very dry weather, it becomes so loose as to be unfit to bear a good crop of corn; this is likewise the case with some loose gravelly soils.

On the other hand, clay and strong soils should be ploughed when they are moderately dry, for if these are ploughed when they are wet, the land will soon be as hard as a brick, and unfit for vegetation, for it cannot afterwards be pulverized. Are not bricks made with clay moulded while it is soft and then set to dry?

A winter's frost produces fine effects upon clay soils. Water expands when it is frozen, and in a sudden thaw the little icicles, like daggers, cut and tear the clay to pieces in a manner beyond the reach of any human art to effect.

I am, &c.

W—shire.

AN OLD FARMER.

ARTICLE X.

How to judge of the Weather by the Moon when she is three or four Days old.

Mr. SYLVAN,

THE following observation of VIRGIL, who was both a Farmer and a Poet, was taken notice of by the great Lord Bacon; and upon the strictest and nicest trial of three years, I can affirm it is true. I therefore send it to you, as translated by Dr. Trapp, not doubting but I shall see it in the next *Farmer's Magazine*.

HESIOD.

But if the rapid Sun thou shalt regard,
And the just order of succeeding Moons:
Thou ne'er shalt by to-morrow be deceiv'd,
Nor aught from faithless starry nights endure.
If, when the Moon collects returning light,
Her blunted horns include a dusky air;
Then mighty rain impends o'er land and sea,
But if a virgin's blush be o'er her face
Diffus'd; 'twill then be wind: with blasts of wind
Still golden Phœbe reddens. But if bright
At her fourth rising (for the fourth predicts
Most certain) and with sharpen'd horns she wheel
Along the sky; then all that day and those
Succeeding till the month completed ends,
Nor rain, nor winds shall know.

GEORGIC. lib. 1. v. 424.

[We made similar remarks some years ago, and are of opinion that the rule is as good as any to judge of the weather; but the Supreme King does not restrict himself to any particular rule or method in any of his manifold and all-wise operations.]

ARTICLE XI.

To preserve Turnips from the Frost.

SIR,

THE public prints informed us some time ago that a Farmer in Norfolk begins in October to draw his turnips; he then cuts off the greens for his sheep, and hauls the roots into his yard, where he piles them up in heaps, covers them well with stubble, and then thatches them, which secures them from the frost. In winter he draws them out for his stock as they are wanted. I thought the method a good one, and have sent it to you to propagate and preserve it by means of the *Farmer's Magazine*.

Sept. 19, 1776.

An Occasional Correspondent.

ARTICLE XII.

Mr. SYLVAN,

THE following letter, addressed to the Earl of Stamford. President of the Agriculture Society at Manchester, being on a subject adapted to your useful Magazine, I send it to you for publication; and am, &c.

A Member of the Agriculture Society.

To the Right Hon. the EARL of STAMFORD.

My LORD,

I HAD the honour, some months since, to present to your Lordship and the Agriculture Society, some observations on the action of lime and marle as manures, together with proposals for the making of *artificial marle*.

Besides the distinguished attention which the Society was pleased to pay to my essay, I have since been highly flattered by a request from our very respectable Associate, Dr. Hunter, of York, that he might be permitted to republish it in an additional volume of Georgical essays, with which he intends shortly to favour the public; and also by the Doncaster Society reprinting it for the use of their members,

The approbation of such Judges makes me ambitious to render it more perfect. And I am happy to have it in my power to remove the principal objection which some persons made to my scheme, viz. that forming the mixture would be exceedingly difficult, laborious, and expensive.

As I was lately travelling between Bradford and Hallifax, I was driven by a storm to take shelter in the stable of a labouring farmer, who was lading dung. His employment induced me to ask him some questions relative to manures, and among others, whether the country produced any marle, which he answered in the negative; but he informed me that it contained plenty of lime and also clay. I then told him that he might make marle with those ingredients. To my great surprise, the honest man seemed no stranger to what I imagined would have been intirely new to him. And, on further inquiry, I discovered that he had several years since, actually executed what I had only surmised; and I had the pleasure to receive from him an account of the process, by which he mixed the compost, which is much more easy and simple than that which I have proposed. It consisted in throwing, alternately, layers of clay and lime, and leaving the heap exposed to the action of the weather during the winter, by which means it mouldered down into a sufficiently uniform mass. At the proper season it was laid upon the field, and produced an excellent crop of wheat the following year. He informed me that he then worked for a Mr. Watkinson, who, I think he said, lived at Honley, in that neighbourhood, on whose land this artificial marle was ap-

plied. I was in hopes to have been favoured by that gentleman, with a more particular account of the success of the experiment, but I fear my letter to him has miscarried, from my not perfectly understanding the directions which the farmer gave me.

I cannot express the pleasure which this *fortunate* interview gave me.—When we consider the power which quick lime possesses of dissolving many bodies, we shall cease to wonder at the facility with which the mixture was performed. For this method, it will be sufficient that the lime be fallen, without waiting for the recovery of its air, as this point will be attained during the subsequent exposure. The addition of sand, which I before mentioned, will, I believe, be unnecessary, except where the compost is intended for stiff clay land, as most clay and lime naturally contain as much sand as is generally found in marle.

Though in this neighbourhood natural marle is produced in great abundance, it is hoped that the method of making it artificially may be a useful acquisition, in those parts of the kingdom which contain no marle, but where lime is to be procured at a very easy expence. And, when we reflect how disagreeable it is to make large pits in fields adjoining to gentlemen's houses, where fertility would be dearly purchased by sacrificing neatness and regularity, the practice may not be without its utility even in this country.

For light land, it will be always preferable to add clay, rather than soil, to lime. I am, my Lord, with the greatest respect,

Your Lordship's most obliged,

And obedient humble servant,

Manchester,
Sept. 6, 1776.

THOMAS HENRY.

~~~~~  
*Explanation of the other General Turnpike Road Act, passed the last Session of Parliament.*

[See the Farmer's Magazine for June, p. 110.]

**B**Y the act of the 13th of his present Majesty, it was enacted, That from and after the 29th day of September, 1776, all waggons, wains, and carts, having wheels of a less breadth than six inches, should pay a double toll; by the present very short act, this clause is suspended till the 29th of September, 1778. And

The Trustees of turnpike roads are required to release all lessees of tolls from their contracts at the end of the current year, if such lessees shall desire the same.

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Explanation of the Act for granting additional Duties on Coaches, Indentures, Leases, Bonds, and other Deeds; and upon Cards, Dice, and News-papers; passed last Session of Parliament.

AN additional duty of 20s. is laid upon coaches, and chaises with four wheels; and a duty of 5l. upon all stage coaches; commencing July 5th, 1776.

By the former act, no person was to be charged for more than five carriages, whether kept for his own use, or for hire; but by the present act this clause is repealed. Hackney coaches, being licensed, are not included in this act.

AN

An additional stamp duty of 1s. for every skin of parchment or sheet of paper, is laid upon all indentures, leases, bonds, and other deeds, which were before liable to pay one shilling stamp duty; commencing July 5th, 1776.

An additional duty of 2s. 6d. for every pair of dice, and an additional duty of 6d. on every pack of playing cards; with a penalty annexed of 5l. for each pack, on selling cards which have been already used in play, commonly called *second-hand* cards, unless the back of all the pictured cards are marked so as to render them unfit to be used in play; commencing the 1st of June, 1776.

An additional duty of one half-penny on every news-paper; commencing July 5th, 1776.

XX

A Practical REVIEW of NEW BOOKS

On AGRICULTURE, &c.

The Philosophical Transactions of the Royal Society of London.
Vol. LXVI. For the Year 1776. Part I. Continued.

ARTICLE IX.—*Violent asthmatic Fits, occasioned by the effluvia of Ipecacohana.* By William Scott, M. D. of Stamfordham, Northumberland.

WE have here the extraordinary case of a married lady of Stamfordham in Northumberland. She had always been remarkably healthy till the first or second year after marriage, when she began to be at times afflicted with a very troublesome shortness of breathing, attended with a remarkable stricture about her throat and breast, and with a particular kind of wheezing noise. These fits came on very suddenly, and were often so violent as to threaten immediate suffocation; their duration was uncertain, but they generally went off in two or three days, and commonly with a spitting of tough phlegm, which she said had a disagreeable metallic taste; after which she enjoyed her usual good health and spirits.

About two years after her marriage she told her husband (who was of the medical faculty) that she observed these fits always attacked her when any ipecacohana was powdered in his shop; and that she was certain the effluvia of that medicine brought them on. This was looked upon at first as a fancy; but as she frequently after called out (even from a different room) when any of the medicine was either powdering or putting up, that she found the ipecacohana, and that they would immediately see her affected by it, (which Dr. Scott and several others saw frequently happen as she had said) they were convinced to a demonstration, that the effluvia of the medicine some how or other so affected her nerves, as to bring on a very great and remarkable degree of spasm all about her throat and breast. Great precaution was now taken for several years not to powder or weigh any of the medicine unless she was sent out of the way; and

during that time she enjoyed perfect good health. However, in June 1775, her husband unthinkingly opened a parcel of powdered ipecacoanha, and put it into a bottle; she was not far off at the time, and was again immediately seized with the violent asthmatic fits, which continued, though not without intervals of ease, for more than a fortnight. Antispasmodic and anodyne medicines were frequently exhibited in small doses, but she received little or no benefit from them; but then she never could bear more than eight or nine drops of laudamum at one dose in time of health, without violent sickness, giddiness, and pain in her head, &c.

The Doctor mentions two other similar cases, and observes, that the ipecacoanha which produced the above effects was the common officinal ash-coloured or grey kind; and concludes with informing us that he has sometimes thought since, that perhaps musk in pretty large doses might have been of service to her.

ARTICLE X.—*Astronomical Observations made in the Austrian Netherlands in 1772 and 1773. By Nathaniel Pigott, Esq; F. R. S. foreign member of the academies of Brussels and Caen. In a letter to the Rev. Nevil Maskelyne, Astronomer Royal, F. R. S.*

Mr. Pigott dates his letter from Louvain, and says, that "this astronomical journey was undertaken at the request of the government here. They expressed a desire that the situations of some of their towns, at least, should be determined by observation."

The latitude of his observatory at Namur was $50^{\circ}, 28', 32''$ —at Luxembourg $39^{\circ}, 57', 6''$ —at La Heese, near Hoogstraeten $51^{\circ}, 23', 2''$ —at Hoogstraeten $51^{\circ}, 24', 44''$ —at Ostende, $51^{\circ}, 15', 10''$ —at Tournai $50^{\circ}, 36', 57''$.

The geographical reader by comparing these observations with the maps of the Austrian Netherlands, will see whether the above-mentioned places are laid down in their respective latitudes: we omit the longitude because it is reckoned from Paris.

ARTICLE XI.—*An account of some attempts to imitate the effects of the Torpedo by Electricity. By the Hon. Henry Cavendish, F. R. S.*

In the sixty-third volume of the Philosophical Transactions, part II. there is a letter from Mr. Walsh to Dr. Franklin, "of the electric property of the Torpedo," vulgarly called the cramp, or numb fish. But though the proofs brought by Mr. Walsh, that the phenomena of the torpedo are produced by electricity, are such as leave little room for doubt; yet as there are some circumstances, which at first sight seem scarcely to be reconciled with this supposition, Mr. Cavendish was induced to examine whether these circumstances are really incompatible with such an opinion, or not.

For this purpose he constructed an instrument (which he calls an artificial torpedo) and after having thoroughly soaked it in salt water, he repeated the principal experiments made with the natural fish both in the water and in the open air; from all which he concludes, that there seems nothing in the phenomena of the torpedo, at all repugnant to the known laws of electricity.

From

From some experiments which Mr. C. intends shortly to lay before the Royal Society, it appears, that iron wire conducts about four hundred million times better than rain or distilled water; that sea water conducts an hundred times, and a saturated solution of sea salt in water about seven hundred and twenty times better than rain water.

ARTICLE XII. *An account of the success of some Attempts to freeze Quicksilver, at Albany Fort in Hudson's Bay, in the year 1775, with Observations on the Dipping-Needle. By Thomas Hutchins, Esq; in a Letter to Dr. Maty, Sec. R. S.*

Mr. Hutchins succeeded in his first but failed in a second attempt to produce the extraordinary phenomenon of congealing quicksilver by cold. This was effected by mixing Glauber's smoking spirit of nitre with snow in a large tea-cup; and when the snow was dissolved, the bulb of the tube containing the quicksilver was immersed in it for about ten or fifteen minutes, when it was removed into another cup containing the like mixture, and afterwards into a third. The tube was now broken, and it appeared that the quicksilver was frozen so hard as to bear the stroke of a hammer. The standard thermometer, graduated by Messrs. Nairne and Blunt, which was immersed with the tube in the mixture, descended to 430° below 0, and did not go below this point.

It is extremely difficult to ascertain the exact degree at which quicksilver begins to freeze, because no particular alteration or circumstance points out the moment of congelation, or even afterwards, for the quicksilver in the tube still continues to fall, and retains the same appearance as before, contrary to what is observed in water. Perhaps this may be determined by breaking the glasses at different altitudes; but this would be both tedious and expensive.

The observations on the dipping-needle vary from 76° , $50'$, to 81° -25. These differences Mr. H. cannot possibly account for, more especially as he took so much pains to render his observations correct. They were made in the open air, on a platform on the top of the fort.

ARTICLE XIII.—*An Account of Three Journeys from the Cape Town into the Southern Parts of Africa; undertaken for the Discovery of new Plants, towards the Improvement of the Royal Botanical Gardens at Kew. By Mr. Francis Masson, one of his Majesty's Gardeners. Addressed to Sir John Pringle, Bart. P. R. S.*

JOURNEY I.

On the 10th of December, 1772, I set out from the Cape Town, towards the evening, attended by a Dutchman, and a Hottentot who drove my waggon, which was drawn by eight oxen; this being the manner of travelling there. They prefer oxen to horses, because they are much cheaper and more easily maintained. At sun-set we crossed the Salt River, about two miles distance from the Cape Town, where is placed a high flag-staff with a large old piece of cannon, intended to give signals to prevent a surprize from an enemy: these signals are answered by others, placed upon eminences at proper distances, and alarm the adjacent country in a short time. In the night we travelled over a large sandy

sandy plain; and towards the morning stopped at a small cottage called *Elfis Kraal*. The next day we partook of the diversion of hunting a small species of antelope, which the Dutch call *Steenbock*. We crossed great part of this sandy plain, which is very extensive, reaching from the *Tyger Berg* to *Bay Falso*, upwards of twenty miles; from the *Table Mountain* to *Hottentot Holland Mountains*, about thirty miles. The soil of this plain is unfit for cultivation; being a pure white sand, blown by the S. E. wind from the shore of *Falso Bay*, and often forming large hillocks; it is, nevertheless, overgrown with an infinite variety of plants peculiar to this country.

11th, We passed the *Tyger Berg*, leaving it on our left hand; and along its skirts saw many fine plantations, abounding with corn fields and vineyards.

12th, We passed the *Paerdon Berg* (that is, *Horses Mountain*) so called from the number of Zebras formerly found there, which are called by the Dutch inhabitants wild horses. Towards the evening, crossing the *Berg Riveir*, (that is, *Mountain River*) we entered into the district called *Draakensteen*, a valley about ten miles in length, and about five in breadth; containing many large plantations of vineyards, and orchards of most kinds of European fruit, which have been transported hither by the Dutch, viz: apricots, peaches, plumbs, apples, pears, figs, mulberries, almonds, chestnuts, and walnuts; but no Indian fruits, except the *gu-yava* and *jambo*, neither of which ripen well. These plantations are generally situated near the foot of the mountains, and watered by small streams, which descend with great rapidity, and are conveyed all over their gardens and vineyards.

16th, We travelled to a small village called *Perel*, so named from its situation on the N. E. side of a hill called *Perel Berg*. In it is a church and about a dozen of houses dispersed along the foot of the hill, with pretty gardens and vineyards, which produce excellent wine.

17th, I went up to the top of the *Perel Berg*, where I spent a whole day in search of plants, and hunting a sort of antelope called *Ree Bock*; but had no success. I saw nothing here so worthy of observation as two large solid rocks, of a roundish figure; each of which, I may positively say, is more than a mile about at the base, and upwards of two hundred feet high above the ground. Their surfaces are nearly smooth, without chink or fissures, and they are found to be a species of *saxum* or granite, different from that which compose the neighbouring mountains.

18th, From hence we continued our journey to a valley, adjoining the S. E. part of *Draakensteen*, called *Fransche Hoek*; it having been settled by a party of French refugees, who left France about the beginning of this century. Though but a poor settlement, being a cold, moorish soil, it produces corn enough for its inhabitants, four wine and some fruit. *Draakensteen* and *Fransche Hoek* are bounded on the N.E. and S.E. by a chain of high mountains, which have their beginning at *Cape Falso*, run in a winding course to the N.W. of *St. Helena Bay*, and send out several branches into the interior parts of the country. These two vallies are watered by the *Berg Rivier*, which rises in the *Stellenbosch* mountains. It is a considerable river, but no where navigable. The banks are decorated with a great variety of uncommon trees.

January 4, 1773, We reached *Stellenbosch*, a small village about 30 miles N.E. from the *Cape Town*, consisting of about 30 houses, forming one regular street, with a row of large oak trees on each side along the front of the houses, which render it very pleasant in the hot season.

These

These oaks, which are of the same sort with ours in England, were brought out of Europe by Adrian Vanderstell, formerly governor of the Cape, who built this village, and gave it his name. The country round it is populous, and contains many rich farms, which produce plenty of corn and wine. It is watered by a small river called Eerste Rivier, which discharges itself into the East part of Falso Bay. The farmers we found busy in treading out their corn, which is performed by horses in the following manner: They make a circular floor about 30, 40, or 50 feet diameter, with a composition of clay and cow-dung, which binds very hard; round it they erect a mud wall, about breast high; this floor they cover with sheaves, beginning in the middle, and laying them in concentric circles till they reach the outside. They then turn in about 20 or 30 horses, which a Hottentot, furnished with a long whip, drives round and round till the corn be trodden out, and the straw become as fine as chaff; which they afterwards clean, and carry into their granaries. This method they can practice with great security, as it seldom rains here from the middle of October to the middle of March.

5th, From thence we travelled along the foot of the Stellenbosch mountains to Hottentot Holland, a pleasant and level country; surrounded on three sides by the mountains; and the other opening to the East part of Falso Bay. In it are eight or ten plantations, with elegant houses, gardens, vineyards, and corn fields: this country lies about thirty-five miles East from the Cape Town.

6th, We ascended the mountains by an exceedingly steep and rugged path, which the peasants call Hottentot Holland Kloof,* and after much labour and fatigue gained their summit, when we entered a spacious plain, interspersed with an infinite number of large fragments of rocks, visibly decayed by the force of the S.E. wind, which blows here during the summer with very great force. Some of these rocks appeared like the ruins of church-steeple, and were worn so thin with wind and rain, that the softer parts of them were perforated in many places. They are formed of the *cos quadrum* of Linnæus. The soil about them is a black earth intermixed with a pure white sand, probably proceeding from the decay of the rocks. These mountains abound with a great number of curious plants, and are, I believe, the richest mountains in Africa for a botanist. We then passed the Palmet Rivier, so called by the peasants from a plant which almost covers the water; the leaves of which greatly resemble that of the ananas or pine-apple, but their flowers are like those of a reed. At night we crossed a small river, called Boter Rivier, and took up our lodging at a mean cottage, where the Dutchmen and Hottentots live almost promiscuously together, their beds consisting only of sheep's skins. The next morning an old Hottentot brought out a fat wether, and slaughtered it, part of which we ate for our breakfast.

8th, We came to a hot bath, situated on the S.E. side of a large mountain called Zwart Berg. The India Company have erected here a tolerable house for the reception of sick people. The water is scalding hot where it springs out of the earth; but after being conveyed about ten or twelve paces to the bath, it becomes more temperate. The people here seem to use it for all diseases without exception, and often perhaps receive more hurt than benefit by it.

10th, We crossed Rivier Zonder Eynde; that is, Endless River, which discharges itself into the Breed Rivier. At night we came to Sweet

* Kloof is a narrow passage over the lower part of a chain of mountains, or sometimes a narrow passage between mountains.

Sweet Milk Valley, where there is a good house belonging to the overseer of the Company's woods; who received us with great civility, and kept us with him five days. The fourth day, we went into the woods, which are about half-way up a high chain of mountains that extend along the N. and N.E. side of the valley. I was accompanied by a farmer's son, who took with him eight large rough dogs, which in our way started two wolves; one of them we wounded with small shot, so that the dogs overtook him. A fierce battle ensued, which lasted an hour before he was killed. We afterwards climbed over many dreadful precipices till we arrived at the woods, which are dark and gloomy, interspersed with climbing shrubs of various kinds. The trees are very high, some from eighty to a hundred feet, often growing out of perpendicular rocks where no earth is to be seen. Amongst these the water sometimes falls in cascades over rocks two hundred feet perpendicular, with awful noise. I endured this day much fatigue in these sequestered and unfrequented woods, with a mixture of horror and admiration. The greatest part of the trees that compose them are unknown to botanists. Some I found in flower; others, which were not so, I was obliged to leave for the researches of those who may come after me in a more fortunate season.

16th, I visited a Hottentot Kraal: the men were all, at this time, attending their herds; but the women and children were employed in building their huts, which are very low, of a circular figure, and made of slender poles, the ends of which are stuck into the ground, so as to form a number of arches crossing one another; these they afterwards cover with mats made of reeds. They have a round hole in the middle of the floor, in which they make the fire, and sit all round it upon the ground, but have no chimney or hole to let out the smoke.

18th, We crossed the Breed Rivier, which is considerable, and only passable in winter by a ferry; but at this season we forded it at the place where the Rivier Zonder Eynde joins it. At night we arrived at Schwellendam, a place about a hundred and fifty miles N.E. from the Cape Town, where we remained two days; but finding the season too far spent for making any considerable collections, I returned back to the Cape by the same road I came. It was on this journey that I collected the seed of the many beautiful species of *erica* which, I find, have succeeded so well in the Royal Garden at Kew.

[The Remainder of these entertaining Journeys to be given in a future number.]

RURAL IMPROVEMENTS. *Continued from our last.*

WE are next to attend to the author's arguments in favour of dividing large farms into small ones. "Suppose, says he, a gentleman possessed of an estate of 1000l. a year, and that it consists of 4000 acres of land, all in the occupation of one opulent tenant;" and "suppose the tenant should be obliged to quit his farm, it is much but the tenant's quitting the estate would be ascribed to his paying too high a rent, and it is most likely this would be a powerful argument to lower the rent; and in an estate of 4000 acres it is much but there would be many hundreds, which would not be worth more than a shilling or eighteen-pence an acre" [like the moors in Devonshire.]—Well, these suppositions being all granted, "a Farmer who rents the whole has neither leisure nor inclination to attend

tend to the improvement of them ;—I know it is neither for his interest, nor in his power to do it.”

What does this Land-owner mean ? He has been just now recommending from his *own* experience, an extensively useful method of improving poor land, and now he says, he *knows* it is neither for the Farmer's interest, nor in his power to do it. But admitting the Farm was divided, the question recurs, who is to improve the waste lands ? for he positively assures us, he was obliged take his own poor lands into hand, instead of dividing his large farm into small ones, and to give his hind particular instructions about the improvements. According to his own account, he keeps no fewer than eight-and-twenty plough-horses and oxen, and of course he keeps a very large farm in hand : Why then is he such a warm advocate for *small* farms ? And why does he so strongly reprobate his own practice ?

The expence of erecting buildings upon farms is a matter of no small moment ; let us then hear the sentiments of our scheming dictatorial Land-owner on this important subject :

“ All that is necessary, says he, is usefulness and convenience, all beyond these is superfluous expence, and should be carefully avoided. Beauty and elegance in a Farm-house of this class, are quite out of the question. Those that think them necessary, I apprehend, must be strangers to most of the buildings occupied by Farmers in the western and northern counties : A Farm-house, forty feet in length, sixteen wide, and twelve high, would come to no more than eight guineas ; but suppose we reckon ten, you see it is but a trifle. Such a building would be very sufficient for one of those farmers, [who rent from 30l. to 100l. per ann.] it would contain a kitchen twenty feet by sixteen ; stair-case six feet, and buttery behind it, and a parlour fourteen feet by sixteen.”

Who would be without a Farm-house upon his estate when he can erect one for such a *trifling* sum as EIGHT OR TEN GUINEAS ? In another part of the work, however, the expence of erecting a house, barn, &c. upon only twenty acres of land, is estimated at 120l. which he will reconcile at his leisure. The reader is no doubt anxious to know what kind of buildings these are :—our author will inform him, that “ they are not elegant, nor even neat ; but they are dry and warm.”—An hovel or an hog-stye built with cob-walls* and thatched, may be dry and warm, though neither elegant nor neat.

Before we give his *arguments* (for we see little or nothing of his *experience*) to prove the superiority of the new husbandry over the old, it may be necessary to premise, that, as much as he is *satisfied* of the great usefulness of the new method, and would strenuously recommend the more general practice of it ; yet he is *satisfied* the crops in the old method, when the land is well cultivated and ma-

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nured,

* Cob-walls are made with stiff loam mixed with straw and tempered with water ; they are pretty durable if well made.

nured, produces a third more, yea sometimes double, than what is obtained in the new method in general; because, where great quantities of manure are to be had, the land may be continually cropped. But then "it is equally certain, from incontestible facts, that the new has greatly the superiority, where circumstances concur to render it practicable with convenience. The facts are supported by the best authorities, deduced from experiments made on very large scales,† upon a great variety of soils in distant countries, and continued for a great number of years." This looks very much like a contradiction; for he is *satisfied* that by the old method, with good management, the land may be continually cropped, and that these crops are by much the largest.

He has already told us that the experiments he alludes to were made either by himself, or by some *intimate acquaintance* whose practice and success he *knew as well* as his own. These "intimate acquaintance" are Messrs. Tull, Du Hamel, Chateauvieux, Baker, Cox, and Sir Digby Legard, "who all concur in the clearest evidence of the superior excellence of the new method, where circumstances are equally favourable to both. These facts being so clearly and well attested, I think, says he, any thing further is quite unnecessary."

As our present limits will not permit us to enter into the comparative merits of the different systems, we shall present our readers with an extract from the account communicated to the Society instituted for the encouragement of arts, &c. by Sir Digby Legard, the celebrated patron of the New Husbandry, and published in the 2d volume of "*Memoirs of Agriculture*," p. 57.

"Having now had several years practice in the drill culture, says Sir Digby, I send you the result of that practice, as far as relates to the cultivation of wheat, extracted from my minutes: and, to avoid the imputation of partiality to a favourite system, I must premise, that during the ten years I have pursued the horse-hoeing culture, I have constantly attended the common method; and have generally even practised the latter on those fields contiguous to those destined for the Tullian, or garden cultivation. True it is, that where the new method is carried on in a neat and husband-like manner, the fields resemble a garden in the elegance of their appearance, and the luxuriance of their productions. Whether, or no, the preference be *REALLY* due to this system, or it ever will be generally adopted, *TIME AND EXPERIENCE MUST DISCOVER.*"

No person ever took more pains to establish the new husbandry than Sir Digby Legard; and yet after a course of experiments continued with unremitted care for *ten* years, he dares not prefer it to the old husbandry, but leaves the determination to *TIME AND EXPERIENCE*. What credit Mr. W—y's assertions, above quoted, deserve,

† Did M. Chateauvieux make his experiments upon *very large* scales? He did, if drilling half an acre or an acre of land for a few years merits such a panegyric.

serve, let the reader determine. We may venture to add one obvious remark, which is, that the new husbandry is in the course of a few years discontinued by almost every person who tries it. Mr. Tull has indisputably been of infinite service to this kingdom, and the *general* principles of the new husbandry are indeed incontrovertible; but then they may be more advantageously applied to the old husbandry. To talk of raising continual successive crops of wheat, and comparing the profits with those of the various crops raised in any course of the old husbandry, is *prima facie* absurd; because pease, oats, barley, clover, turnips, &c. &c. must be raised; the tillage land cannot therefore be appropriated to raising wheat only.

Mr. W. in all his tracts considers the bounty as a pernicious measure, and he yet allows that the *redundance* or *surplus* of our crops may, and ought to be exported. Who contends for any thing more?—and if by giving a bounty, *more* corn is raised, the inevitable consequence is, there will be a *larger* surplus to export. One of his arguments is however too curious to pass unnoticed, especially as it contains the quintessence of all the others.

“Suppose that the sum of 200,000*l.* was paid annually in bounty money for exportation, then in seven years the whole amount would be 1,400,000*l.* and the value of the corn exported 8,400,000*l.* If,” says he, grant him but this diminutive monosyllable *if*, and he will prove,—we had almost said, any thing;—but to proceed, “if the whole quantity might have been sold in the course of the last and present year [1770, 1771] without a bounty, for at least double the price it sold for with one, it clearly follows that the nation has sustained a loss by the seven years sale to the amount of the two sums above-mentioned, which being added together, make the sum nine millions eight hundred thousand pounds. And this sum appears to me beyond the possibility of a doubt, the nation has absolutely lost by its last seven years exportation trade.”

This argument proves the direct contrary of what it was intended to prove. For if the corn which *was* exported would have fetched the *same* price at home as the corn which was *not* exported, which in his argument he takes for granted, then “it clearly follows” that the exportation could have no influence over the price, and that the nation absolutely *gained* the above-mentioned amazing sum by these seven years exportation trade.

But if no more wheat was to be raised than what his “specification of soils, and arrangement of the crops suited to them” direct, we should have none to export, for we should have but little to eat. For example; 1. Clay and heavy lands, wheat every fourth year; 2. Middling lands, two crops of wheat in nine years; 3. Light rich land, no wheat; 4. Light poor land, no wheat; 5. Chalk and gravelly soils, no wheat; 6. Coarse rough land, wheat every fifth year.

What will the Hampshire, Berkshire, &c. Farmers say to the 5th article? And in a word, what will every Farmer say to the 3d article?

cle? As to the 6th, after enumerating so many different soils, no person besides himself can possibly tell what he means by coarse rough lands? perhaps he means the *Devonshire* moors.

We have now performed our promise of paying that particular attention to this work which the author so very warmly solicited by his extraordinary professions. The article being extended to a decent length, we have on that account passed over his numerous puerilities; together with the quibbles which he intended as an answer to the late worthy Canon of Windsor,

The Farmer's Director; or a Compendium of English Husbandry.

Concisely describing the management of land, and cultivating the several kinds of corn and pulse. Of grasses and plants for the food of cattle, and their several feeding qualities. Of meadows and pastures, and a new system of applying the grass lands of a farm. With various improvements interspersed through the work. Also an Appendix: Containing general observations and directions on various subjects of husbandry; such as, difference of soils, and the manner of treating them; of the cattle necessary for different farms; of the improvement of heath lands and marshes; of the manner of improving a new farm; of the servants necessary, and the various implements of husbandry; of the expence of stocking, &c. &c. By Thomas Bowden, of the county of Kent. London, Richardson and Urquhart, 2s. sewed.

A Reviewer is commonly supposed to be some needy, mercenary wretch, who writes for hire, and is equally ready to praise or condemn as his employer directs. He is always represented to be callous, and unfeeling as the ostrich to her young; and having no passion to indulge but ill-nature, his sarcasms are darted like quills from a revengeful porcupine. Thus pre-judged—thus pre-condemned—how can a Reviewer possibly please?

Does he pronounce the judgment of the court of Literature,—and the sentence should bear hard upon an author who has unfortunately mistaken, or misapplied his talents; he is accused of reading but to cavil,—of a determination to make faults where he could not find them. To praise—without coming up to that standard of excellence which the author has erected, is a crime too deeply dyed to be pardoned.

If he pronounces without citing passages,—then he never read the book; and if in order to do his author ample justice the passages are given at full length, he is charged with quoting largely to fill his own pages. Are ill-expressed, tedious paragraphs abridged, however faithfully,—such treatment is unfair, uncandid, cruel; the weakest part of the argument is given, and the strongest suppressed.

Is a valuable work commended,—the author gave the poor devil a guinea. Is even the most despicable performance noticed but with a slight degree of disapprobation,—the father of the bantling, fond of his amiable footerkin, fires with revenge, and, having dipped his

his pen in gall, prays to heaven for patience while he belabours, bespatters, and berafals the poor Reviewer for his blindness to such pre-eminent merit, and for so disrespectfully treating such a sensible, humane, and benevolent author.

To say that a book, which has no superior degree of excellence or merit in sentiment or taste, may be taken up and read without pleasure, and laid down again without regret, is—to check the growth of juvenile merit, and damp the author's rising genius. To give fair and candid extracts from a book, and then submitting the decision to the public, is—to confess ignorance of the subject, and the consequent inability to determine.

Surely it must require some degree of fortitude to engage with such prepossessions, and to encounter so many prejudices;—and well for us it is, that our appeal lies to the candid, unprejudiced, and unerring PUBLICK.

From the copious title-page above exhibited one should naturally conclude, that no other book was necessary to teach the whole art of husbandry; and, from its amazing cheapness, that no “*Practical Farmer*,” for whom it is principally intended, however prejudiced he may be against books, would be without it.

This Compendium seems to be an abridgment of larger works, and to be executed by a person who is an entire stranger to practical husbandry.

In the first page of the introduction he takes notice of a very valuable improvement: “*Half a century ago, says he, fallowing for wheat every third or fourth year was thought necessary to refresh the land and make it clean from weeds; but for these purposes, a change of crops is substituted, and turnips, clover, &c. are now obtained in the fallow year, and the expence of fallowing saved.*” Let us compare this with what he says in the first chapter of his work, which treats “*Of Fallowing.*”

“*It has been computed that the damage done by weeds every year is equal to the rent of all the arable lands in England. Several methods are taken by Farmers to subdue weeds, whereof the principal one is fallowing.*” We should be glad to know who made this computation; but a *practical* husbandman would hardly have advanced such a palpable contradiction in the beginning of his book. In page 130, we find this last doctrine again inculcated. “*Marley soil is much subject to weeds, and therefore ought to be frequently fallowed.*”

In page 42, he talks of self-sown oats that will in a mild winter produce a crop, *superior* to those raised from seed in the spring. The writer may possibly have *heard* of a *bastard crop*.

“*Saintfoin, he says, should not be fed any year after the first later than October, otherwise they will do it irreparable damage.*” Had he been a Farmer, he would have known that the “*irreparable damage*” done to saintfoin, is done by feeding it with sheep *before* October.

In

✓ In page 136 he expresses himself thus: "In the worst part of England, particularly in Hampshire, Wiltshire, Devonshire, and Somersetshire."—This is the first time that *Hampshire* and *Wiltshire* were ever reckoned among the worst parts of England; but we suppose he knows nothing of either of those counties.

The last chapter of the book treats of the sums necessary to be laid out in stocking a new farm, which is to consist of no less than nine hundred acres of land; of which "three hundred acres are to be ploughed up as soon as possible; three hundred more are to be broken up for the next year; but the remaining three hundred acres are to remain till such time as the other parts are properly cultivated. Thus he must prepare every necessary implement for the cultivation of *six* hundred acres in *one* year; nor must he forget that at least one quarter of the year must be allotted for other purposes."—Well said, Grubstreet!—But "one hundred and fifty acres of the farm should be set apart for grass land; and if there is no common right adjoining to the farm, then the Farmer ought to keep only a *small number* of sheep."—Better and better still, quo' he.

He adds, that "the following articles will answer the desired end to every young Farmer who intends to promote his interest in the world; and although some of them may be rated a *small* matter under or above the price at which they may be purchased, yet that will be found to be of such a *trifling nature*, that few exceptions can be taken to it."

The young Farmer will no doubt much wish to see what it will cost him to stock this farm which is rated at 200*l.* per ann. If the land be good, it is cheap enough; and so is the stock intended to be purchased, as it is here valued.

"Twelve horses, including one hackney horse, at 10*l.* each."—Fine cart-horses these!

"Ten ploughs."—Every horse a plough, save one; but a pretty many ploughs will be required to plough 600 acres in one year.

"Three hundred sheep, twelve pounds."—Not a shilling a head! He has improved upon Taglace's story.

"Three cows, six pounds."—Forty shillings a-piece; pretty cattle, no doubt!

"Pick-axes, mattocks, &c. six pounds."—For the West-country smiters, or mattockers.

"Harnes for twelve horses, three carts with ladders, two narrow-wheel'd waggon, one broad-wheel waggon, THIRTY-FIVE pounds."—These carriages are probably intended for such redoubted personages as Queen Mab, and Tom Thumb; or for Captain Gulliver against he takes his next voyage to Lilliput.

But however, notwithstanding these mistakes, which may be rectified in a second edition, it is the best compendium of Husbandry that we have seen.

POETRY.

P O E T R Y.

*The SPORTSMAN; or, The
SECOND OF SEPTEMBER.*

AN ELEGY.

NOW legal liberty pursues the hare,
Who, warm'd with dreadful apprehension, flies,
Seeks every covert to avoid the snare,
And, in her previous fright, a double death she dies.

Now smoke the courfers o'er the stubble ground,
Leap the broad ditch, or clear the lofty gate;

The tainted gale informs the fleeting hound
Where the poor timid game shall meet its timeless fate.

The sweeping spaniel plies his eager way,
High bounds, reverted from th' elastic green,

Springs with the greediest rapture to his prey,
Devour'd, in strong idea, e'er tis seen!

Now drops the trembling innocent in death,
(The blood-stain'd chaps of dogs deform'd with gore)

The hapless hare resigns her harmless breath,
To feed the wretch her fears had gratify'd before.

The feather'd tribe no less are doom'd to die,
The gun, obtrusive, shall arrest the flight,

And while they, raptur'd, hail th' ethereal sky,
Sink them, with cruel force, to shades of endless night.

Can man, with breast all unimpassion'd, view
Scenes thus adapted to impress the heart,

And know these scenes, beyond description, true,
Nor heave one gentle sigh—nor feel one pungent smart.

AN AUTUMNAL HYMN.

GREAT God! at whose all-powerful call

At first arose this beauteous frame,

Thou bidst the seasons change, and all
The changing seasons speak thy name.

Thy bounty bids the infant year,
From winter storms recover'd rise;
When thousand grateful scenes appear,
Fresh opening to our wond'ring eyes.

O how delightful 'tis to see
The earth in vernal beauty drest!
While in each herb, & flow'r, & tree,
Thy blooming glories shine confess!

Aloft, full beaming, reigns the sun,
And light, and genial heat conveys;
And while he leads the seasons on,
From thee derives his quick'ning rays.

Around us, from the teeming field,
Springs the rich grain, or purpled vine;

At thy command, they rise to yield
The strength'ning bread, or cheering wine.

Wide spreading o'er the furrow'd land,
The thick-sown troops their banners wave,

Ripe for the sickle nodding stand,
And the bold reaper proudly brave.

Obsequious to th' expected call,
Well arm'd proceed the rural train;
The bearded hosts by thousands fall,
And lovely havock strews the plain.

Nor less the vineyard than the field
With thy autumnal bounty stor'd;
The loaded boughs their tribute yield
To fill the cask—or grace the board.

Indulgent God! from every part
Thy plenteous blessings largely flow:
We see—we taste—let every heart
With grateful love and duty glow!

So may thy constant providence
Bless Albion's fields with growing store,

Till heav'n's eternal spring commence,
And earthly harvests rise no more.

—♦♦♦♦♦—

ON FRIENDSHIP.

LIBERTY! my steps convey,
Lead me where I wish to stay;
Lead me Friendship's seat to find,
The truest bliss of human kind;
Sacred Friendship! heav'nly flame!
Faithful Friendship! dearest name!
Her's are all the joys of life,
Free from trouble, free from strife:

Confidence,

Confidence, with placid air,
 And Constancy, belong to her;
 Her, Honour waits, with steady look;
 Virtue, by no misfortune shook;
 Gratitude, with joyful eye;
 Kindness, that passes error by;
 Sympathy, that measure keeps,
 As pleasure smiles, or sorrow weeps;
 Calm Content, an heav'nly guest,
 And Peace, the treasure of the breast:
 These to Friendship all belong,
 Objects of immortal song.
 Love, and his raptures, I resign,
 Friendship! make thy blessings mine.

—♦♦♦♦♦—
 TRUE RICHES.

I AM not concern'd to know
 What to-morrow fate will do:
 'Tis enough that I can say
 I've possess'd myself to-day:
 Then if haply midnight death
 Seize my flesh and stop my breath,
 Yet to-morrow I shall be
 Heir to the best part of me.

Glittering stones and golden things,
 Wealth and honours that have wings,
 Ever fluttering to be gone,
 I could never call my own:
 Riches that the world bestows
 She can take and I can lose;
 But the treasures that are mine
 Lie afar beyond the Line.
 When I view my spacious soul,
 And survey myself a whole,
 And enjoy myself alone,
 I'm a kingdom of my own.

I've a mighty part within,
 What the world hath never seen,
 Rich as Eden's happy ground,
 And with choicer plenty crown'd,
 Here on all the shining boughs
 Knowledge fair and useful grows;
 On the same young flow'ry tree
 All the seasons you may see;
 Notions in the bloom of light,
 Just disclosing to the sight;
 Here are thoughts of larger growth,
 Rip'ning into solid truth;
 Fruits refin'd, of noble taste;
 Seraphs feed on such repast.
 Here, in a green and shady grove,
 Streams of pleasure mix with love:
 There, beneath the smiling skies,
 Hills of contemplation rise;
 Now, upon some shining top,
 Angels light, and call me up;
 I rejoice to raise my feet,
 Both rejoice when there we meet.

There are endless beauties more,
 Earth has no resemblance for;
 Nothing like them round the pole,
 Nothing can describe the soul:
 'Tis a region half unknown,
 That has treasures of its own,
 More remote from public view
 Than the bowels of Peru;
 Broader 'tis and brighter far,
 Than the golden Indies are;
 Ships that trace the wat'ry stage
 Cannot coast it in an age;
 Harts and Horses, strong and fleet,
 Had they wings to help their feet,
 Could not run it half way o'er
 In ten thousand days and more.

Yet the silly wand'ring mind
 Loth to be too much confin'd,
 Roves and takes her daily tours,
 Coasting round the narrow shores;
 Narrow shores of flesh and sense,
 Picking stones and pebbles thence:
 Or she sits at fancy's door,
 Calling shapes and shadows to her;
 Foreign visits still receiving,
 And t' herself a stranger living;
 Never, never would she buy
 Indian dust, or Tyrian dye;
 Never trade abroad for more,
 If she saw her native store,
 If her inward worth were known,
 She might ever live alone.

—♦♦♦♦♦—
 VERSES occasioned by the early Singing
 of a LARK; said to be written by a
 Youth of fourteen.

ATTEND, my soul, the early birds
 inspire [tial fire:
 My grov'ling thoughts with pure celest-
 They from their temp'rate sleep awake,
 and pay [born day.
 Their thankful anthems for the new-
 See, how the tuneful Lark is mounted
 high,
 And, poet-like, salutes the eastern sky;
 He warbles through the fragrant air
 his lays, [praise.
 And seems the beauties of the morn to
 But Man, more void of gratitude, a-
 wakes, [he takes:
 And gives no thanks for the sweet rest
 Looks on the glorious sun's new kin-
 dled flame, [whom it came:
 Without one thought of Him, from
 The wretch unhallow'd does the day
 begin,
 Shakes off his sleep, but shakes not
 off his sin.

•• CORRESPONDENCE in our next.

The Farmer's Magazine,

A N D

Useful FAMILY COMPANION:

NUMBER VII. (for October 1776,) Price 6d.

Embellished with a great Variety of Useful TABLES, of Weights, Measures, and Coins; the Sun's Rising and Setting; the Moon's Southing; Probabilities of Life; Value of Annuities; Explanation of Stocks; Invariable Term Tables for London, Cambridge, and Oxford; Rates of Postage, both Inland and Foreign, &c. &c.

[Printed so as to be fit for Framing.]

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To which is added, A GENERAL DICTIONARY of Husbandry, Planting, Gardening, and the Vegetable Part of the *Materia Medica*: Containing a great Variety of new and useful matter, with many original Articles.

By AGRICOLA SYLVAN, Gentleman,

Printed for W. GOLDSMITH, No. 24, in Pater-noster-Row;
And R. CRUTTWELL, in BATH;

And sold by every Bookseller, Stationer, and News-Carrier, in the Kingdom.

Average PRICES of CORN, from Sept. 30 to Oct. 5.

By the Standard Winchester Bushel of Eight Gallons.

Wheat Rye Barley Oats Beans					COUNTIES upon the COAST.				
s. d.	s. d.	s. d.	s. d.	s. d.	Essex	4	6	3	4
London	4	10	5	0	Suffolk	4	5	2	10
COUNTIES INLAND.					Norfolk	4	2	1	11
Middlesex	5	1	1	2	Lincoln	4	5	3	6
Surry	5	1	3	6	York	4	9	3	2
Hertford	4	10	1	2	Durham	4	8	3	4
Bedford	4	9	3	1	Northumb.	4	5	3	3
Cambridge	4	8	2	11	Cumberland	4	9	3	1
Huntingdon	4	9	1	2	Westmorel.	4	6	1	1
Northampt.	4	11	8	6	Lancashire	5	5	2	6
Rutland	4	9	2	11	Cheshire	4	10	2	1
Leicester	4	11	3	4	Monmouth	5	2	2	4
Nottingham	4	10	3	4	Somerset	5	5	3	3
Derby	5	0	2	6	Devon	5	7	2	7
Stafford	4	11	3	5	Cornwall	5	0	2	1
Salop	4	8	3	7	Dorset	5	6	2	2
Hereford	4	5	2	0	Hampshire	4	8	2	5
Worcester	4	10	3	4	Suffex	4	6	2	3
Warwick	4	11	1	2	Kent	5	0	2	9
Gloucester	5	1	2	4	From Sept. 23, to Sept. 28, 1776.				
Wilts	4	11	4	6	WALES.				
Berks	4	8	4	0	No. Wales	5	2	4	1
Oxford	4	8	1	2	So. Wales	5	0	3	11
Bucks	4	10	1	2	Part of SCOTLAND.				
					Wheat Rye Barley Oats Beans Big	4	0	1	2

The ASSIZE of BREAD, as set by the Lord-Mayor of London, Tuesday, Oct. 15th.

The Penny Loaf, Wheat, 0 10 8		Household, 0 14 4	
Two-penny Loaf, Wheat, 1 5 0		Household, 2 12 8	
Three-penny Loaf, Wheat, 2 15 8		Household, 2 10 12	
To weigh, lb. oz. dr.		To be sold for, s. d.	
The Peck, 17 6 0	Wheat, 2 2	Household, 1 7 1	
Half Peck, 8 11 0	Wheat, 1 1	Household, 0 9 4	
Quartern, 4 5 8	Wheat, 0 6 1	Household, 0 5	

PRICES of STOCKS.

Bank Stock, 140s.	India Stock, —
South Sea, —	3 per cent B. Red. Annu.
3 per cent Cons. 83 1/2	3 1/2 per cent, 1751, 84 1/2
4 per cent Cons. Annu. 1751, —	India Ann. 70 1/2
Long Ann. 25 1/2	India Bonds, 39 1/2
Cr. disc. Scrip. —	Lottery Tick. 121. os. 6d.

Price of Hops in the Borough.

New Pockets, —	3l. 10s. to 4l. 00s.
New Bags, —	2l. 16s. to 3l. 8s.
Old Pockets, —	3l. 2s. to 3l. 8s.
Old Bags, —	2l. 8s. to 2l. 15s.

Price of Corn at MARK-LANE.

Monday, Oct. 21.

Wheat, per quarter,	32s to 40s od
Barley, —	14s to 21s od
Rye, —	22s to 24s od
Brown Malt, —	24s to 26s od
Pale ditto, —	24s to 26s od
Oats, —	12s to 16s 6d
Essex Beans, —	13s to 15s od
Tick, —	18s to 21s od
Boiling Pease, —	12s to 14s od
Hog ditto, —	26s to 28s od
Tares, —	24s to 30s od
Fine Flour, per Sack, —	34s
Second ditto, —	30s
Third ditto, —	27s

Return of the Sale of Wheat at Bear-Kings Monday, Oct. 14.

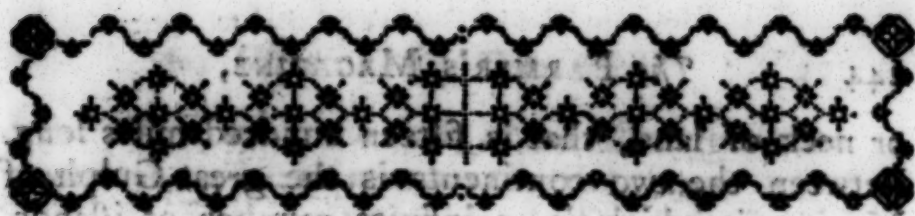
206 Q. at 41s. od.	16 Q. at 37s. od.
237 do. at 40s. 6d.	70 do. at 36s. od.
750 do. at 40s. od.	4 do. at 33s. 6d.
406 do. at 39s. od.	
300 do. at 38s. 6d.	Wheat flour 31
540 do. at 38s. od.	and 31s per sack.

WHITECHAPEL.

Hay, 3l. 06s. to 4l. 10s.	Lead.
Straw, 1l. 6s. to 1l. 14s.	1 Ton.

SMITHFIELD-MARKET.

Beef, per Stone, 2s. 8d.	
Veal, —	3s. od.
Mutton, —	3s. od.
Lamb, —	3s. od.



T H E
FARMER'S MAGAZINE.

A DISSERTATION on the Progress and present State of
AGRICULTURE; with a concise Account of the
best English Writers on the subject. [Continued.]

HAVING in our last number promised some account of American Husbandry, we shall preface the account with a general, but concise description of the country, that our readers may be the better enabled to understand it.

America,* frequently denominated the *New World*, extends from the North pole to the fifty-seventh degree of Southern latitude, being upwards of eight thousand miles in length, and near three thousand in its greatest breadth; it has two summers and a double winter, and enjoys all the variety of climates which the earth affords. It is washed by the two greatest oceans, the Atlantic ocean, and the Pacific or Great South Sea: by these seas it carries on a direct commerce with the other three parts of the world. It is composed of two vast continents, the one called North, and the other South America. These two continents are connected by an isthmus,

K k 2

or

* Though Columbus first discovered America, yet the famous *Americus Vesputius* having got into his hands the charts of Columbus, sailed the same course; and being a man of address, and great confidence, an able seaman, and a good geographer, he found a way of arrogating to himself the first discovery of the continent of America, and called it by his own name, which it has ever since retained.

or neck of land, that is fifteen hundred miles long. Between the two continents is the great Gulph of Mexico, in which lie an infinite number of islands, many of them large, and most of them fertile; these, with the Bahama, and Antilles, or Caribbee Islands, are generally called the West-India Islands.

Though America is not in general a mountainous country, yet it has some very great mountains. The Andes or Cordilleras, in the Southern, and the Apalachian or Allegeny mountains, in the Northern continent. The Andes run from North to South along the coast of the Pacific Ocean; they are perpetually covered with snow, but in their bowels they contain inexhaustible treasures.

Without comparison, America is that part of the world which is the best watered; and that not only for the support of life, but for the convenience of trade, and the intercourse of each part with the others. In North America the great river Mississippi, rising from unknown sources, runs an immense course from North to South, and receives the vast tribute of the Ohio, and other immense rivers, (not to be postponed to the Rhine or the Danube) navigable almost to their very sources, and laying open the inmost recesses of this continent. Near the heads of these are five great lakes, or rather seas of fresh water, communicating with each other, and all communicating with the ocean by the river St. Laurence, which passes through them. These afford such an inlet for commerce as must produce the greatest advantages, whenever the country adjacent shall come to be fully inhabited by an industrious and civilized people. The eastern side of North America, (containing the twelve Provinces,) besides the noble rivers Hudson, Delaware, Susquehanna, Potowmack, and St. John's, supplies several others of great depth, length, and commodious navigation. Many parts are so intersected with navigable rivers and creeks,
that

that the planters may be said, without exaggeration, to have each an harbour at his own door.

South America is, if possible, in this respect even more fortunate. It supplies much the two largest rivers in the world, the river of Amazons, and the Rio de la Plata. The first rising in Peru, not far from the South Sea, passes from West to East almost quite through the continent of South America, navigable for some sort or other of vessels all the way, and receiving into its bosom a prodigious number of rivers, all navigable in the same manner, and so great, that it is often almost impossible to determine which is the main channel. The Rio de la Plata rising in the heart of the country shapes its course to the South-east, and pours such an immense flood into the sea, that it makes it taste fresh a great many leagues from the shore; to say nothing of the Oronoquo, which might rank the foremost amongst any but the American rivers.

Both the continents may be divided into three regions; the Flats, the Highlands, and the Mountains.

The Flats is the large track of land lying between the sea coast and the falls of the great rivers that run into the ocean. The flats bear strong marks of having been at one time covered with the sea; and a firm persuasion of it prevails amongst the Indians, for which they refer to the tradition of their ancestors.

The Highlands begin at the falls, and terminate at the foot of the mountains, which lie nearly parallel to the sea coast; and though they are in the same latitude with the flat country, yet the air is more healthy and temperate, and the soil more fertile.

The soil and products in such a variety of climates cannot satisfactorily be treated of in a general description, and it would extend this article to a very great length were we to describe minutely the productions of each Province. Confining ourselves therefore (at present) to North America, we shall divide it into
three

three parts, stiled by some Geographers the North, the Middle, and the South Divisions.

The First Division will comprehend the government of Newfoundland, which includes the isle of Newfoundland, and all the islands adjacent to its coasts, together with those in the Gulph of St. Lawrence, and all the coast of Labrador from St. John's river to Hudson's Straits; Canada, or the Province of Quebec; and Nova Scotia.

The Second Division will consist of New-England; New-York; New-Jersey, divided into East and West; Pennsylvania, with the Counties on the Delaware; and Maryland.

The Third contains Virginia; Carolina, divided into North and South; Georgia; and Florida, divided into East and West.

By this mode of arrangement we shall avoid the confusion attendant on a general description, and the perplexity arising from a very minute one. For as the productions in the Provinces contained in each division are similar, or nearly so, the tedious, disgusting repetitions and references are avoided, and a sufficiently comprehensive idea may be formed by adverting to the description and produce of the whole. Again, by adopting this method, the divisions will coincide with their respective climates, which we shall restrain (though, it may be, arbitrarily) to the frigid, the temperate, and the torrid; and we presume no one can be insensible that the productions and subjects for culture, are peculiar to each. Thus wheat is most peculiar to New-York and Pennsylvania; tobacco to Maryland and Virginia; &c.

It will here be necessary for us to explain some peculiar appellations by which they distinguish their lands; these are, Swamps, Pine-barrens, and Savannahs.

A Swamp

A Swamp signifies a track of land that is sound and good, but lying low is covered with water. All the forest trees (pine excepted) thrive best in the swamps, the soil being always rich. When drained and cleared, these soils are excellent for the growth of rice, hemp, and indigo; but are too rich for corn.

Pine-barrens, are plains covered with pines, which are sometimes called high-lands, in contra-distinction to the swamps, or low-lands. The trees stand so thick and close upon some of these pine-barrens, that they hinder the grass from growing.

Savannahs are rich grazing grounds.

But before we proceed any farther, it may not be amiss to give a brief account of the Aborigines or natives, called the Indians, from which we shall more clearly see the improvements made by the Europeans in agriculture and the other arts of civil life.

It is observed that the Indians throughout the whole extent of the two vast continents which they inhabit, and amongst the infinite number of nations and tribes into which they are divided, differ very little from each other in their manners and customs, and that they all form a very striking picture of the most distant antiquity. They are tall, and strait in their limbs; their bodies are strong, but of a species of strength rather fitted to endure much hardship than to continue long at any servile work, for by this they are quickly consumed. Their features are regular, but their countenances fierce; no beards; the colour of their skin a reddish brown.

When the Europeans first discovered America, they found the people quite naked, except those parts which it is common for the most uncultivated to conceal. Since that time they have generally a coarse blanket to cover them, which they buy of us. The whole fashion of their lives is of a piece; hardy, poor, and squalid; to which they are trained
from

from their infancy, their education being solely directed to form their minds both to inflict and to endure the greatest evils. Their only occupations are hunting and war; agriculture is left to the women. When their hunting season is past, and their provisions laid up, they pass the rest of their time in an entire indolence. There are no people among whom the laws of hospitality are more sacred, or executed with more generosity and good will; their houses, their provision, even their young women, are not enough to oblige a guest. But to their enemies they are implacable; no length of time is sufficient to allay their resentment; no distance of place great enough to protect the object; but no people have their anger, or at least the shew of their anger, more under their command, ever concealing their sentiments until they have an opportunity of executing an horrible revenge.

Liberty in its fullest extent is the darling passion of the Indians: to this they sacrifice every thing. Their children are indulged in all manner of liberty, being never, on any account, chastised with blows, lest it might abate the free and martial spirit which makes the glory of their people. They know no punishment but death; for they lay no fines, because they have no way of exacting them from free men. Family love, rare amongst us, is a national virtue amongst them, of which all partake. Friendships there are amongst them fit to vie with those of fabulous antiquity; every one is ready to execute the orders of their Senate; nor ever was an instance of disloyalty or rebellion known among this people.

[To be continued.]

ARTICLE II.

The natural History and Cultivation of Lucerne,

[To illustrate the Plate in our last Magazine.]

THIS plant was discovered in Media by Darius during his Persian expedition. By this means it passed afterwards into Greece, and thence to Italy, before the times of Cato and Virgil.

From being discovered in Media, it had its name Medica, Medicago, and Medick; it is called by the Spaniards Alfalfa, and Ervaye; and by the French La Lucerne, Grande Trefle, and Fœnum Burgundiacum, that is, Burgundy hay.

There is no doubt but that its culture continued upon a flourishing footing in Italy till the irruption of the Goths and Vandals, when it was neglected and left to perish by those savage invaders. But as Spain suffered much less from these barbarians than Italy, and as the Moors were all lovers of plants, and to a certain degree herbalists, the culture of lucerne was there faintly kept alive like a vestal fire. It is probable that the sort we now have is a descendant from *Columella's* lucerne, who removed it from Italy, and naturalized it in Andalusia, where it was preserved for many ages. From Spain this Medica returned to Naples, and thence to Volterra, and Scandiano, being held in much esteem every where; but more particularly near cities where land is scarce and dear.

About the year 1550, a Venetian nobleman who was fond of husbandry raised it with success; and not long afterwards the archbishop of Montigli (who was also bishop of Viterbo) carried a parcel of the seeds to Rome; so that the culture of lucerne soon spread with rapidity over great part of the ecclesiastical state and all Lombardy. In some few years Count Fabio taught the French to raise lucerne round Paris; inasmuch that in Henry IVth's time it was as common, at least in the southern parts of France, as broad clover is at present with us.

About 1578, lucerne found its way into Germany, and was cultivated in one of the loveliest parts of the whole empire, namely, the Lower Palatinate. At the same time its fame reached England, where all admired it, and some few had the courage to make essays towards cultivating it; but their attempts were languid, and generally unsuccessful, notwithstanding they had the practice of the antients to guide them in the books *de Rebus Rusticis*. At length Hartlib excited the attention of the public afresh in the year 1650. He did as much, circumstances considered, as a man of his great genius could do. But as there was no method of raising it at

that time generally known, but by the common practice used in cultivating clover, it of course miscarried in our climate.

Lucerne has a perennial root, and an annual stalk which rises three or four feet high in good land, and is garnished at each point with trifoliate leaves, whose lobes are spear-shaped, about an inch and a half long and half an inch broad, and sawed towards the top. The flowers grow in spikes which are from two to near three inches in length, standing upon naked footstalks two inches long, rising from the wings of the stalks; they are of the pea bloom or butterfly kind, of a fine purple colour, and are succeeded by compressed moon-shaped pods, which contain several kidney-shaped seeds. It flowers in June, and the seed ripens in September.

There are several varieties of this species of lucerne, but the greater upright medick or lucerne with purple or violet flowers is the strongest, and best for use, and consequently the most profitable for the husbandman. The botanists stile it *Medica* (Sativa) *caule erecto herbaceo, foliis ternatis, foliolis lanceolatis supernè ferratis floribus spicatis alaribus*.

The antients, and some of the moderns, are lavish in its praise, esteeming it superior to every other sort of vegetable food, either green or made into hay, that has hitherto been used for the support of cattle. If rightly managed it is capable of supporting heat and drowth even near the equator; and may be successfully raised in any climate not exceeding sixty degrees of latitude either north or south; so that there will be little to fear from our summer droughts, even when the neighbouring fields are stinted in growth and half parched up.

It is difficult to assign any reason why it is called *Lucerne*; for the canton of that name in Switzerland neither was nor is famous for producing it; nor did the western or northern parts of Europe receive it thence, as appears from the account already given of its progress.

Lucerne is one of the handsomest of the artificial grasses. The flowers of common kinds are sometimes red, and sometimes purple; a large field when in full blossom has a very bright beautiful glow at a distance. It is looked upon to be wholesome for men as well as cattle; and the leaves are eaten in the South of France with the spring salad herbs; the taste is like that of cresses. The leaves infused in boiling water have all the fragrance of fine new-made hay. Several writers prescribe it in small quantities for sick sheep, and indeed to all cattle that are ill, languishing, or out of plight. Meadow lucerne has been stiled *sops in wine*; and probably

probably on account of its flowers being thrown into wine and water, like borage and bugloss, to give the liquor an agreeable flavour.

Besides the superior goodness of lucerne as food for cattle, its early appearance is another particular advantage; for it comes in use long before all common grasses, and even six or seven weeks before clover or winter vetches.

Cattle are very fond of this green food, preferring it to the clovers and trefails. It should however be remembered that they likewise prefer that which has been cut and remained a day or two in a shady place. Lucerne must be given with more caution to cows than horses; with the latter it proves extremely diuretic for about eight or ten days, and then they begin to grow fat. Sheep will eat it either green or dried, when they refuse every other sort of food. All cattle prefer lucerne-hay to any other if you lay different heaps before them: an horse will never leave a sprig in the rack or manger.

As to young pigs, scarcely any food is so healthy, nourishing, and agreeable, as the vegetable we are here speaking of, if it be cut while it is green and carried to the sty; nor does any sort of food enable the sow to give larger quantities of milk.

Cold will not injure this plant; for in the severe winter of 1728-9, some roots which were dug up in October, and laid upon the ground in the open air till the beginning of March, were again planted, and they shot out very vigorously soon after; nay, even while they lay upon the ground, they sent out shoots from the under side of the roots: but wet will altogether destroy it. A little of the seed was sown upon a moist spot of ground for a trial; it flourished during the summer, but during the winter rains the roots began to rot, and before the spring most of them perished. Having given this, we hope, not unentertaining account, we shall briefly describe the different methods of cultivating lucerne; viz. the *broad-cast*, *drilling*, and *transplantation*.

The soil which is esteemed most proper is a deep, rich, and well-conditioned one, and rather inclined to moisture than dryness; but by no means wet from stagnating water, as this always proves fatal to lucerne. It should be well ploughed, and harrowed till it is exceeding fine, and be cleaned from all sorts of weeds, of which no plant is more impatient. If some fresh stable litter be ploughed in just before the seed is sown, it will enable the young plant to push forth its leaves and stalks with luxuriance the first summer.

The seed should be procured from France, Italy, Switzerland, or Spain, because it seldom arises at a sufficient degree of maturity in our climate; for we want that strength of sunshine, and constant settled weather, which the cultivators of lucerne enjoy in the countries just mentioned.

It may be sown (about forty pounds to an acre) from the beginning of March to the end of May; but about the middle of April is the best time, provided the weather be dry. The plant comes up like clover, but varies a little after it is a month old, and begins to put out three leaves. Great care must be taken to keep it clean from weeds, otherwise they will soon overpower and choke the infant crop. In Languedoc they mow the lucerne when it is six or seven inches high; by which means all the annual weeds are cut off and killed. This however is by some entirely condemned on account of the lucerne bleeding when it is cut so young.

The most proper time to mow lucerne for hay is just when it begins to blossom. It should be turned in the swarth like clover, and when sufficiently made, it should be carried to a barn, for it does not keep so well in a rick. It seems most eligible to mow it only once the first year, and when it shoots again, to feed it off with sheep.

Early the next spring it should be harrowed to tear up the weeds, which may be done without any material injury to the roots of the lucerne. An harrow has been contrived for this purpose that resembles a large garden-rake with handles fixed to the head, so that a labourer may press down the teeth into the land: this harrowing may be renewed every spring; some recommend it after every mowing.

With respect to the number of cuttings, though some writers pretend it may be mowed six times, yet it has rarely been mowed in this country more than three times in one year.

Mr. Miller recommends, from his own experience, a different method of cultivating this plant. He sowed it in drills about eighteen inches asunder, scattering the seeds very thin in the drills, about six pounds to an acre. His reason for this practice was, more easily destroying the weeds than in the broad cast. This hoeing he repeated several times, and always in dry weather, because weeds do not then vegetate.

With this management the lucerne was fit to cut in August; after which, the ground between the rows was again hoed: in September it was four or five inches high, when he usually fed it off with sheep till November. In the beginning of February following, the intervals should be again stirred
with

with the hoe, by which means, in a warm soil, the shoots will be five or six inches high in March, when there is scarce a blade of grass to be seen elsewhere. This may be fed down till a week in April, and then left till the beginning of June, when it will be fit to cut. The ground should be again hoed, and there will be another crop fit to cut by the latter end of July; after which, it should be fed down again in autumn.

In this manner there will constantly be two crops to cut, and two feedings every year; and in good seasons there may be three crops cut, and two feedings.

Mr. Miller is inclined to think, that the reason why it does not succeed so well in England is owing to its being sowed with corn; for though the plant be hardy when grown to a large size, yet if it be incommoded by any other plant at its first coming up, it never flourishes; or it may have been sowed at a wrong season, or in wet weather. However, certain it is, that if the natural grass or weeds are not kept down at first, they will soon overpower and destroy the lucerne.

The late ingenious author of the *Essays on Husbandry*, recommends a new method of cultivating lucerne; which is, by raising the plants in a nursery in the spring, and transplanting them into the field in August or September, having previously cut off their stalks and tap roots.

The plants in the nursery being eighteen inches high, are carefully to be digged up, and the earth entirely loosened at top and bottom before they are drawn out. In the next place the long tap roots are to be cut off at eight, nine, or ten inches below the crown of the plant; and the stalks or shoots clipped about five inches above the crown of the plant, which is then to be thrown into a vessel of water, (for this plant is very impatient of heat and sun-shine after it is taken up) and the same day removed into the field prepared for its reception, and planted in rows three feet four inches asunder. The crop is to be horse-hoed, and may be cut five or six times in one year, which will (the author says) produce ten tons.

This method is attended with a great deal of care, trouble, and expence; but if the lucerne be transplanted in moist or showery weather, the additional trouble of steeping the plants in water may be spared; though it is a plant of such inestimable value that it will answer almost any expence.

It is observed by all the cultivators, that lucerne may be cut long before meadow grass, and that the drilled crops are earlier than the broad cast. They have likewise another advantage, which is, being more easily kept free from weeds; but

but where the ground is properly prepared by fallowing, or turnips, so that the land is properly clean and fine, the broad cast will have greatly the advantage, and recommend itself to the practical husbandman, as being more simple, and less expensive.

We shall conclude, with observing, that ashes and soot are excellent dressings for lucerne, and superior to dung.

[The account of Burnet in our next.]

ARTICLE III.

On the Diseases of Cattle, with their Remedies.

By Mr. C. WILLIAMSON.—Continued.

Costiveness.

THIS disease, simply considered, seldom happens, though it is often enough met with to be well understood; and if not corrected, or properly treated, would bring on dangerous disorders: neglect will often end in colics, and drastic or violent purging medicines produce lasks, that are generally dangerous and often incurable. I scarce know a complaint which requires more nice management, as cows and oxen, of all animals, bear each extreme the worst.

Here let me again remind my readers, how little to be depended on are books which pretend to treat on the disorders of oxen, horses, &c. as I have read in some, and those of some esteem, that the disorders of oxen and horses are to be treated alike. Monstrous absurdity! fatal ignorance! when in the very complaint of which I am now treating, the same medicines necessary and proper for a horse, would inevitably destroy the ox or cow. I myself have seen from a superpurgation a cow lose her milk, and become so weak as to threaten the greatest danger; the ox I have known to become so weak as to be incapable of work for some time.—Would it not in the eye of common Farmers be absurd to give aloes, jalap, &c. the common purges for a horse, to an ox or cow? If any one thinks not as I do for him, I have offended. In books of fancy, poetry, or romance, the consequence of ignorance will not be fatal; but it is far otherwise in books which treat of disorders incident to mankind or animals in general, when at least nothing unknown should be related; nothing false should be set down; and something more than compilers should write the books designed to be printed.

The

The common farriers are known to be illiterate men, and I wonder that they are so. Why should not a farrier be well educated, or why should illiterate men only be brought up to the business? It is a consequential one, and would be a respectable one, if their education was sufficient to enable them to understand the *Materia Medica*, and the qualities of medicines; they would, next to physicians and surgeons, be some of the most useful people in the kingdom. I have often wondered that no farrier has given his son a superior education for his own business; for if he has given him a good education, it was to qualify him for a surgeon, or something above the meanness of himself; not considering the value, the consequence to the community, such a man would be, possessed of his father's knowledge, improved by learning, and all the blessings attendant upon learning.

There is also another set of Beings whose honesty is seldom found; I mean, retailers of drugs, who pretend to dispense medicines, (but of the worst kind) of which they know not the nature, to cure diseases of which they hardly know the name. Such men as these will in common dispense

Crude antimony, for crocus metallorum;

Cinders, for crude antimony;

Common salt, for powder'd nitre;

Brickduft, for bole armoniac;

Proof spirits, for spirits of wine; and many others too tedious to mention.

Enough at present of digression; let us now return to the disorder, and its cure.

Let an emollient clyster be given daily. [*See Farmer's Magazine for Aug. p. 172.*] Take four ounces of honey, three ounces of fallad oil, and the yolks of two eggs; rub them together, and by degrees add a pint of gruel; give half at night, and half in the morning.

Bloody Urine.

This disease is often produced by a blow or a strain, and in either case is dangerous; perhaps more so than if it proceeded from an inward disorder, as a mortification is very much to be feared; whereas an exalted state of the urinous salts will sometimes produce the disorder, but a blow or strain to produce it must not only do an external violence to the muscles of the loins, (probably to the nerves themselves) but also to the vessels of the kidneys, and those which go from the kidneys to the bladder; and I have seen the whole in a state
of

of mortification, and this from a strain which has not been thought of sufficient consequence to require medicines;---but remember, that as your beast cannot tell how great the injury is, you are to apply immediate remedies.

Take away some blood. If the beast be collic, give the emollient clyster, No. 1, immediately; and afterwards the anodyne clyster, No. 1, twice or thrice a day.

Of all remedies in diseases of the bladder or kidneys, clysters are the most to be depended on; of which I was informed by an ingenious physical friend, who told me that in the most violent fits of the gravel, retention of urine, &c. he chiefly depended on anodyne clysters, which acted as a fomentation to the parts immediately concerned, and gave a more immediate relief than medicines taken by the mouth.

If the disorder proceeds from a strain or blow, the loins should be bathed with Goulard's vegeto-mineral water, and then covered with cloths. The beast should be kept up at house, and well supplied with warm gruel, or rather the following liquor:

Take two dozen of white poppy heads, seeds and all; liquorice, marshmallow, and couch grass roots, each half a pound; nitre, and gum arabic, each three ounces; camphor, one ounce and a half; boil in six gallons of water gruel to four, and then add a pound of treacle.

Give to the quantity of two gallons daily, a little warm.

Different as the above prescription may be to the common method pursued by Cowleeches, I can recommend it not only as rational, but successful. Restringtons are unadvisable.

[Camphor is so extremely volatile, that the greatest part would evaporate during the coction; would it not therefore be more advisable to add the proper quantity just as it is given to the beast? The gum may likewise be added along with the treacle; for by thickening the menstruum it will load it too much, and prevent its extracting so readily the virtues of the other ingredients.]

ARTICLE IV.

Dissertation on Manures. By COLUMELLA, Continued.

MALT dust, and oak bark after the tanners have done using it, when it is commonly called *tan*, are recommended as good manures. I think the latter greatly superior to the former: it, no doubt, receives some virtue from the hides and skins, which, it is well known, are previously limed.

It

It being of a light warm nature is peculiarly adapted to stiff cold land. Malt dust greatly refreshes pasture land, but its effects are not lasting.

Rotten wood, leaves of trees, and saw dust, are mentioned by some writers; but their virtues are too weak, and their quantity too limited, to merit the encomiums bestowed on them. It has been said by many writers that the stumps of trees are left to rot in America to enrich the soil; this is such a ridiculous story, that I wonder how it ever came to be adopted.

Rubbish from old houses, street dirt, and the fullage of streets in large towns, are all very good manures for both arable and pasture lands, that are cold and stiff. Whoever considers the nature of the substances and liquors thrown into the streets, will be at no loss to account for the rich fertilizing qualities which the latter possess in a high degree. The dirt scraped off the roads, especially those that are much travelled, falls more properly under the head of permanent manures.

Sea sand needs no encomium. It is not real *sand*, but seems to consist of an infinite number of small shells, which are thrown up in particular places by the tide. The common way of using it is first to mix it with fresh earth, and let it remain a few months; this compost is afterwards mixed with the bait or ashes, and then spread upon the land as a dressing for wheat. This dressing produces three good crops of corn, and the sand may be repeated for the next course of crops. It never fails almost immediately to restore and fertilize the land, however much it may have been exhausted by successive crops, or repeated burn-baitings. In the West, an horse-load, which is commonly supposed to be 250lb. is called a seam. Sixty seams of sand is the requisite quantity for an acre, though the Farmers often reduce it so low as forty.

All animal substances, such as blood, horn, woollen rags, &c. make exceeding rich dressings. Woollen rags are much used in some parts, and where they can be had in sufficient quantities are perhaps inferior to nothing.

I have already touched upon the virtues of rank weeds as manure when mixed with composts; but I suppose it will be expected that I should add a few words on the Flemish custom of ploughing in green crops; a very particular discussion of the subject being rendered unnecessary by your correspondent, who subscribes himself *An Old Farmer*. I cannot think it eligible to sow buck wheat or clover upon very poor

land with a view to raise a good crop to be ploughed in; for if the land be very poor, how can a rank crop be expected? and if it is not a rank one, what great benefit can be reaped from ploughing it in? It may however now and then be necessary to plough in a crop, for reasons which I need not assign; and if the crop be very luxuriant, it will produce very sensible effects; but then they will be short, and by no means so lasting as a dressing of good dung from the Farmer's yard.

As to the dispute about mowing clover twice, or feeding it off the second time, when the field is intended for wheat; the authorities are too good, and the practice too extensive on both sides the question, for me to pretend to determine which is best. A large shady crop meliorates the soil so much that it may well be questioned whether mowing twice is not the best method. But then I mean to be understood with respect to land that is in good condition, and not that which wants to be manured for the next course of crops; in the latter case, I believe, no Farmer will hesitate a moment in preferring the fold to the scythe.

The mud in ponds or stagnating waters is an excellent manure; but some perhaps may class it with those manures that are more lasting than any I have yet mentioned. It consists of putrefied animal and vegetable substances mixed with rich earth, deposited there by the rains, &c. The mud should not be laid on the land too soon after it is taken out of the pond, lest it should chill the soil, and likewise fill it with weeds. After it has lain some time, a suitable quantity of lime may be added, which will dry and much improve it, and prevent the inconveniencies just mentioned. I propose to treat of watering land in my next, and shall endeavour to reconcile the discordant opinions relative to the proper time of throwing the water over the lands.

ARTICLE V.

An improved method of preserving Carrots, published in consequence of Dr. Hunter's Preparation of them for the Sea Scurvy. [See the Farmer's Magazine for August.]

SIR,

AT a meeting of the Society at Manchester for promoting Agriculture, the use of carrots for seamen is very justly recommended as a powerful antiscorbutic; and a very good method of preserving them pointed out, by which means they may be made very serviceable at a great distance of time; and

and I make no doubt but the observations are exceedingly judicious and very useful; nevertheless, if you think the following observation worth communicating to the public, you are heartily welcome to it.

I live near Wooverly, a parish in the county of Worcester, where the soil is very light and sandy, and where carrots are produced to the greatest perfection I ever saw, both of the purple and orange kind, some of which I have seen as large as twelve inches in circumference, and have preserved them four months without being at the trouble of making them into marmalade; and I apprehend there are very few of our ships that go abroad but have an opportunity of supplying them with fresh vegetables in less time than that.

The method I took was to draw them in the month of October, and cut off the tops below the green part so as to take off about half an inch of the carrot, by which means they are prevented from sprouting at the large end; the small end I left uncut. I then put them into a cask with some dry sand, just enough to cover them, (but the sand must be very dry) and kept them in a cool place.

Was this simple method made use of, and the carrots barrelled up, I apprehend they might be preserved a very considerable time at sea. All the inconvenience I observed from this method of preserving them is, they get hard, and require a good deal more boiling.

I am, Sir, your's, &c.

VIGORNIENSIS.

[The method of preserving carrots in dry sand has been long practised, but the hint of cutting off part of the root along with the top to prevent its sprouting is, we believe, entirely new. But we recommend the following as much better, and what is commonly practised by the market gardeners in the West of England.

The carrots should be dug up in a dry time, and have the benefit of the sun, if possible, for a day or two, in which time they will be sufficiently dry. The tops are then to be twisted off with the hand, and the roots laid in heaps of eight or ten bushels in the form of a bee-hive, or sugar-loaf, which should be well covered all over with straw or fern; but the latter is best, because mice, or other vermin, will not breed or lodge in it; and lastly, the heap is to be covered with earth, which must be beat smooth with a spade; by this means they are preserved through the winter, for neither frost nor rain can penetrate the heaps; neither will they vegetate, nor get so hard as they do when preserved in dry sand. With respect to the size, it is not uncommon in carrot land that is light, fresh, and good.]

ARTICLE VI.

Extracts from "The Essays on Agriculture," relative to introducing Plants from colder Climates, &c.

MANY unsuccessful attempts have been made to introduce plants and animals from one country to another; while, on the other hand, this has been attended with the desired success, even when they were brought from very distant countries. The unsuccessful attempts not only distressed individuals, but hurt the community, for they naturally discouraged others from trying experiments of the same kind, even where there was a much greater probability of succeeding.

Several persons who have been in Germany, or Russia, during the winter season, where they experience a degree of cold far greater than is ever known in any part of Great-Britain, fondly imagine, from this circumstance, that every plant which can be brought to perfection in these very cold countries, could be equally well raised in Britain; forgetting that their summer heats are more intense, and more uninterrupted. Hence we find that vines can be raised on the continent in great perfection, in latitudes more northern than ours.

From not duly attending to the difference between the nature of the climate of an extensive continent and that of a small island, many have been disappointed in their hopes of raising several American trees and shrubs in Britain; and have been much surprized to find them killed by our winter's frost, while they will every year endure in their own climate a degree of cold much greater than we ever experience, without sustaining any damage from it. Though the cold in the climate alluded to be more severe, yet it is more invariable than with us, and the season more constant; so that from the time that vegetation is stopped in autumn, till it begins again in the spring, the sap is never once put in motion; whereas in Britain, the mild weather that we frequently experience in the middle of winter very often swells the buds at that season, which makes the plants so tender, that they are unable to resist the keen, severe frosts which frequently follow.

Many persons likewise have been much disappointed at finding the roots of certain garden plants killed by our winter frosts, which are seldom hurt by the more intense cold that is felt in Russia and many parts of Germany, from whence we have endeavoured to introduce them, by not adverting to the difference of the climates. In these cold continental countries, the earth is constantly covered with snow for many months,

months, by which means the plants are more effectually preserved from the intense cold than by any other covering that we can give them; inasmuch that grass advances, and flowers spring up under its protection, so as to appear in blossom soon after the snow is dissolved.

Nor, on the other hand, can we be always certain that a plant which comes to perfection in a temperate, or even polar climate, will meet with a sufficient and equable degree of warmth to ripen its seeds in the torrid regions, as is the case with wheat, barley, &c. For in these burning regions, the nights are long and cool, which much retard the maturation of the seed; at the same time the dews are copious, and are greedily imbibed by the succulent leaves; this prepares them to advance with great vigour during the heat of the day, so that the plants grow to a prodigious size before the ear begins to be formed. The stem becomes too long and tender to support the weight of the grain when formed, and the rainy season approaching before the grain is ripe, the plant is infallibly destroyed. But in the northern climates, the nights are so short during the summer season, that vegetation receives hardly any sensible check; and as the dew is less copious, the plant is likewise less luxuriant; hence the constant influence of the sun soon disposes it to push out flower stalks; so that the seeds attain a speedy maturity unknown in the warmer regions.

Again, annual plants which are natives of the Torrid Zone, if they require but a short time to ripen in their native climate, will often succeed very well with us if the summer proves warm and dry, and their seeds will be matured unless the autumnal frosts come on too soon. The potatoe is a striking instance of the justness of this remark. It is a native of a very warm climate, and is as impatient of cold as most plants we know; yet as our summers are sufficiently long, we are enabled to cultivate it with great advantage.

Some plants grow best upon ground that has been lately in tillage, and disappear after a short time, if it is not again ploughed up; and others only begin to flourish after the ground has remained several years in grass.

Common couch grass, knot grass, and earth nut, only appear while the ground is in culture, or at most for a year or two after it is laid down to grass; after which they disappear till the land is again in tillage. It is in this way only that the Farmers in some of the worst cultivated parts of Scotland know how to get rid of these pernicious weeds. Sorrel, mugwort,

wort, and some others, are often found in fields that have been long under bad culture. On the other hand, common milk-wort, yarrow or milfoil, sheep's fescue, and several others, appear only after the ground has been for some considerable time laid down to pasture.

ARTICLE VII.

A Receipt for Ticks, or Lice, in Sheep.

S I R,

THERE is a reddish liquor frequently sold to destroy ticks, or lice, in sheep, which being found to be very efficacious, perhaps the original Receipt may deserve a place in the *Farmer's Magazine*.

It is nothing more than spirits of turpentine coloured with alkanet root. The moment it is dropped on these insects, it proves fatal.

I am, &c.

Bath, Oct. 9, 1776.

V A R R O.

ARTICLE VIII.

Cure for the Head-ache, and the periodic Asthma.

By Dr. PERCIVAL.

A Physician being affected with a severe head-ache, in consequence of having been disturbed in the night, took eighteen drops of laudanum, and immediately afterwards three dishes of very strong coffee, about two o'clock in the afternoon. He then lay down upon the bed, and endeavoured to compose himself to sleep. His pain abated in half an hour, and in an hour was entirely removed.

About a fortnight after he repeated the laudanum and coffee for a similar complaint, with the like success. It is remarkable that he felt no disposition to sleep, although he is often drowsy after dinner, and sometimes indulges himself in sleeping at that time.

In about a fortnight more after this he had a third occasion for his remedy, but he took the laudanum only without coffee. This in an hour composed him to sleep, but did not entirely remove the pain in his head. Coffee, as the Doctor observes, is taken in large quantities with peculiar propriety by the Turks and Arabs, because it counteracts the narcotic effects of opium which they take in such immoderate quantities.

[The writer of this present article has experienced very salutary effects from strong coffee in a violent and continued head-ache.]

Sir

Sir John Pringle in a letter to Dr. Percival, informs him, that coffee is the best abater of the periodic asthma that he has seen. The coffee ought to be of the best Moco, newly burnt, and very strong, (an ounce for one dish) immediately after grinding it, without milk or sugar, and to be repeated fresh after the interval of a quarter of an hour. The late Sir John Floyer, during the latter year of his life, kept free from, at least lived easy under his asthma, by the use of very strong coffee. This discovery, it seems, Sir John Floyer made after the publication of his book upon that disease.

Since the receipt of Sir John Pringle's letter, Dr. Percival has frequently directed coffee in the asthma with great success.

ARTICLE IX.

Of Distilled Spirits. Continued from page 148.

B*Y distilled spirits* are understood such as are drawn with a spirit that has been previously rectified, or which is reduced nearly to this strength in the operation.

We have observed that the flavour and virtues of distilled waters are owing to their being impregnated with a portion of the essential oil of the vegetables from which they are drawn. Spirit of wine is the proper menstruum for these oils; and not only dissolves them when previously separated from the subject by the means of art, but likewise extracts them from the other matters with which they are combined in the original plant.

Nevertheless, many substances, which, on being distilled with water, impart to it their virtues in great perfection; if treated in the same manner with spirit of wine, scarce give over any perceptible smell or taste. This difference seems owing to the different degrees of volatility of spirit and of water, and the lightness or ponderosity of the oils themselves; many of which are too heavy to arise with the greatest degree of heat that spirit of wine can receive, whilst they readily give way to one capable of elevating the less volatile liquor, water.

Thus if cinnamon, for instance, be committed to distillation with a mixture of spirit of wine and water, or a pure proof spirit; the spirit will arise first, clear, colourless, and transparent, and almost without any taste of the spice: but as soon as the more ponderous watery fluid begins to arise, the oil comes freely over with it, so as to render the liquor highly odorous, sapid, and of a milky hue.

The

The proof spirits usually met with in the shops are accompanied with a degree of ill flavour; which, though concealed by means of certain additions, plainly discovers itself in distillation. This nauseous relish does not begin to arise, till after the purer spirituous part has come over; which is the very time that the virtues of the ingredients begin, also, most plentifully to distil: and hence the liquor receives an ungrateful taint. To this cause principally is owing the general complaint, that the cordials of the apothecary are less agreeable than those of the same kind prepared by the distiller; the latter being extremely curious in rectifying or purifying the spirits (when designed for what he calls fine goods) from all ill flavour.

Rectified Spirits of Wine.

Take any quantity of French brandy, and with a very gentle heat distil it to one half.

This rectified spirit, being digested for two days with one fourth its quantity of dry salt of tartar in powder, and then distilled in a glass cucurbit, with a very gentle heat, becomes *Alcohol*.

French brandy is rather too dear an article in this country, for distillation; nor is the spirit obtained from it any ways preferable to one procurable from cheaper liquors. The coarser inflammable spirits may be rendered perfectly pure, and fit for the nicest purposes, by the following method:

If the spirit is exceeding foul, mix it with about an equal quantity of water, and distil with a slow fire; discontinuing the operation as soon as it begins to run milky, and discovers, by its nauseous taste, that the impure and phlegmatic part is arising. By this treatment, the spirit leaves a considerable portion of its foul oily matter behind it in the water, which now appears milky and turbid, and proves highly disagreeable in taste. If the spirit was not very foul at first, this ablution is not necessary; if extremely so, 'twill be needful to repeat it.

As vinous spirits arise with a less degree of fire than watery liquors, we are hence directed to employ, in the distillation of them, a heat less than that in which water boils: and if due regard be had to this circumstance, very weak spirits may, by one or two wary distillations, be tolerably well freed from their aqueous phlegm; especially if the distilling vessels are of such a height, that the spirit, by the heat of a water bath, may but just pass over them: in such case, the phlegmatic vapours, which arise for a little way along with the spirit, will condense and fall back again before they can come to the head.

Very

Very pompous instruments have been contrived for this purpose, and carried in a spiral or serpentine form, to an extraordinary height. The spirit ascending through these, was to leave all the watery parts it contained, in its passage, and come over perfectly pure and free from phlegm. But these instruments are built upon erroneous principles, their extravagant height defeating the end it was designed to answer: if the liquor is made to boil, a considerable quantity of mere phlegm will come over along with the spirit; and if the heat is not raised to this pitch, neither phlegm nor spirit will distil. The most convenient instrument is the common still, betwixt the body of which, and its head, an adopter or copper tube may be fixed.

The spirit being washed, as above directed, from its foul oil, and freed from the greatest part of the phlegm, by gentle distillation in a water bath; add to every gallon of it a pound or two of pure, dry, fixt alkaline salt. Upon digesting these together for a little time, the alcali, from its known property of attracting water and oils, will imbibe the remaining phlegm, and such part of the disagreeable unctuous matter as may still be left in the spirit, and sink with them to the bottom of the vessel. If the spirit be now again gently drawn over, it will arise entirely free from its phlegm and nauseous flavour; but some particles of the alkaline salt are apt to be carried up with it, and give what the workmen call an urinous relish: this may be prevented by the addition of a small proportion of any fixt acid liquor, or rather of an acid salt, as vitriol, or alum.

The spirit obtained by this means is extremely pure, limpid, perfectly flavourless, and fit for the finest purposes. It may be reduced to the strength commonly understood by proof, by mixing twenty ounces of it (by weight) with seventeen ounces of water. The distilled cordials made with these spirits, prove much more elegant and agreeable, than when the common rectified, or proof spirits of the shops, are made use of.

If the rectified spirit be distilled afresh from dry alkaline salt, with a quick fire, it brings over a considerable quantity of the salt, and in this state is supposed to be a more powerful menstruum for certain substances than the pure spirit. This alcalized spirit is called *Tartarized Spirit of Wine*.

ARTICLE X.

On raising Turnips between Beans.

SIR,

SINCE I read your hints for raising two crops in one year, I have seen an attempt to raise turnips between the rows of beans, in the manner you have recommended. The Farmer sowed the turnip seed when he hoed the beans for the last time. The ground was very foul and couchy; otherwise, I think, the turnips would have been good ones. He sees and owns his mistake, in not cleaning the field better; but there will be a very good bite for the sheep, after the beans are off.

Sept. 25, 1776.

An Occasional Correspondent.

ARTICLE XI.

Miscellaneous Hints for Farmers.

IF the large seeds of broad clover, ray grass, white honey-suckle, and trefoil, are mixed and sown, they will yield the largest crop of grass for mowing; because the first two grasses grow high, and the two latter are rather short, and thus a large full swarth may be obtained.

In rich land wheat will stool or tiller pretty much, but not so in poor land; hence we are furnished with a reason why more seed is necessary to be sown on the latter than the former, as well as with an answer to those writers who ask so confidently, if poor land is able to maintain more stems, or blades and ears of corn, than that which is good and rich.

If hay which is much damaged by rains, so that cattle refuse it, be mixed with straw, and cut, the cattle will then eat it greedily enough; but if a small quantity of salt be added, they will be much fonder of it.

Considering the great utility of chaff-cutters, the necessity of supplying large horses with a large quantity of fodder, and the easy method of thus procuring it, we are surprized to see so few chaff-cutters in some parts of the kingdom. Several Farmers with whom we are acquainted affirm, that the expence of keeping their horses with hay only would be so great, they could not afford them a quantity sufficient to fill their bellies. We are acquainted with a Gentleman of fortune who cuts a great deal of young furze for provender every year, and finds it very beneficial and wholesome for all kinds of cattle.

ARTICLE

ARTICLE XII.

The New Husbandry proved insufficient without Manure.

THE following remark [see Essays on Husbandry] is made for the sake of the New Husbandry in general; it likewise serves to confirm your opinion, page 235, in the last Magazine.

Since M. du Hamel published his last work in 1761, M. de Chateauneux has found by experience, that in spite of all assistances from ploughings without manures, he carried a visionary idea of Tull's too far. Of course he returned to the old practice, combining the one with the other; and as his fields had been thoroughly pulverized and cleaned from weeds, every spoonful of manure took effect, and the produce of corn was very surprising.

Oct. 19, 1776.

A CONSTANT READER.

ARTICLE XIII.

An improved Method of ploughing Land in order to raise larger Crops of Corn.

MR. SYLVAN,

I Promised to send you now and then a remark that I thought might be of use to some of your readers, for I see a great difference in the practical parts of husbandry even in neighbouring parishes. In your last number, notice is taken of the Romans laying greater stress on cross ploughing than our modern husbandmen do, which brings to my memory a good custom they have in some of the northern counties, but hardly known in the West. Sensible of the great benefit that is gained by fresh earth, and well pulverizing the soil, they cross plough their inclosed fields in order to sow them for the next course; so that the butts, or ridges, which lay north and south in the former course, are ploughed to lie east and west in the next, by which means the land is much better tilled, and greater crops of corn are raised.

VIATOR.

[This certainly is an improvement, and as such we heartily recommend it to every Farmer.]

ARTICLE XIV.

To make SOY, or India Ketchup.

BOIL a gallon of that sort of kidney-beans, called Daidzu by the Japonese, and Caravances by the Europeans, [the *Dolichos Soja* of Linnæus, Sp. Plant. 1023—Kæmp. Amœnit. 837] till they are soft; then take the caravances, and mix with them a gallon of bruised wheat, or barley, (but wheat makes the blackest Soy) and a little common salt, and let the whole be kept closely covered for a day and a night in a warm place to ferment; then put the mixture into an earthen vessel with ten quarts of water, and cover it up very close. The next day stir it about very well with a battering machine or mill, twice or thrice, in order to blend it more thoroughly together, and continue this for two or three months, when the liquor must be strained and pressed out, and kept in wooden or glass vessels for use; the older it is, the clearer it will be, and consequently of more value. After it is pressed out, more water may be added to the mass, and having stirred it about violently as before, for some days, more Soy may be pressed out.

ARTICLE XV.

Directions for managing Workmen, and Labourers.

Mr. AGRICOLA SYLVAN,

AMONG the many hints and remarks I see in your Magazine, there is nothing said about the management of workmen, servants, and labourers, though this is of very great consequence to a Farmer, because so much of his work goes through their hands. I have on this account chosen it for the subject of this letter.

Having several times found blunders committed by masons and carpenters, where one would not have expected to find them, I was at first a little puzzled to account for it; but considering the matter more fully, I recollected that the foreman, or head workman, came and began the job, and then he is taken away by his master, and sent to some other place, and another man was sent in his room to finish what he began for me. Here lies the fault. The master understands what is to be done, and accordingly gives full directions to the man that he employs to begin the work; but the other who is sent to go on with, and perhaps to finish it, never had any particular instructions,

structions, nor is acquainted with the plan or design, and so goes on and thinks he is right; but it is ten to one he commits a blunder before he finishes, which, in fact, is not his fault. To prevent these mistakes, which sometimes are material, and cannot be rectified without expence, I always found it best to make the same workman finish my work that began it.

In giving orders to my labourers (which should never be omitted in the evenings) I am as particular as possible; and if the work they are going upon requires some ingenuity, I make them just begin it without me, in order to make them think a little, if possible; but then I soon go to them, and examine what they have done, and point out their mistakes, if they have made any; and reason with them, to make them understand what they are about, before they do too much. Now, if I was to go with them at first, and shew them a little, and then leave them to copy after my pattern, I find, by experience, they almost always mistake.

I am strict in insisting on obedience to my orders, and by that means I am obeyed; for I cannot bear their excuses and put-offs which they always have at their fingers' ends; and tho' I am sometimes free and jocular with my servants, I never suffer any pertness from them, that may seem to lessen my authority; and in order to preserve it, I make them add Sir to their answers. I neither curse them, nor suffer them to use profane language, if I know it, to each other; for if a labourer has no reverence for his Maker, he will neither love nor fear his master. I chuse a young man for the foreman, if it be work that requires spirit; young men may be taught, and are pleased with an office, and this makes them exert themselves, but old ones know too much to be taught even by their masters. Too many labourers should not be in one company; if ten men trifle but one hour in a day, there is a day's work lost for one man. As to the common saying, that one hour in the morning is worth two at night—I do not find this true, from experience, especially in harvest time; for when all hands are at work, and things go on regular, as much work is done in one hour towards night as is done in two almost in the morning, when things are unsettled: not that I am against early rising; I know it is the Farmer's duty to be up early. But the following rules, which I lately met with, and which deserve to be printed and hung up in all kitchens and servants' halls, are so much superior to any thing I can add on this subject; and being likewise mementos for masters

masters and mistresses of families, I shall request the favour of seeing them in your Magazine, (though they have already been in print;) for I think they will much please, if they do not edify, your readers.

W—shire.

AN OLD FARMER.

Admonitory RULES for SERVANTS.

A Good character is valuable to every one, but especially to servants, for it is their bread; and without it they cannot be admitted into a creditable family: and happy it is that the best of characters is in every one's power to deserve.

Engage yourself cautiously, but stay long in your place; for long service shews worth, as quitting a good place through passion is a folly, which is always repented of too late.

Never undertake any place you are not qualified for; for pretending to what you do not understand, exposes yourself, and what is still worse, deceives those whom you serve.

Preserve your fidelity: for a faithful servant is a jewel, for whom no encouragement can be too great.

Adhere to the truth; for falshood is detestable; and he who tells one lie, must tell twenty more to conceal it.

Be strictly honest; for it is shameful to be thought unworthy of trust.

Be modest in your behaviour; it becomes your station, and is pleasing to your superiors.

Avoid pert answers; for civil language is cheap, and impertinence provoking.

Be clean in your business; for slovens and fluts are disrespectful servants.

Never tell the affairs of the family you belong to; for that is a sort of treachery, and often makes mischief; but keep their secrets, and have none of your own.

Live friendly with your fellow-servants; for the contrary destroys the peace of the house.

Above all things avoid drunkenness; for it is an inlet to vice, the ruin of your character, and the destruction of your constitution.

Prefer a peaceable life with moderate gains, to great advantages with irregularity.

Save your money; for that will be a friend to you in old age: be not expensive in dress, nor marry too soon.

Be careful of your master's property; for wastefulness is a sin.

Never swear; for that is a crime without excuse, as there is no pleasure in it.

Be always ready to assist a fellow-servant; for good-nature gains the love of every one.

Never

Never stay when sent on a message; for waiting long is painful to a master, and a quick return shews diligence.

Rise early; for it is difficult to recover lost time.

The servant that often changes his place, works only to be poor; for the rolling-stone gathers no moss.

Be not fond of increasing your acquaintance; for visiting leads you out of your business, robs your master of your time, and often puts you to an expence you cannot afford: and above all things take care with whom you are acquainted; for persons are generally the better or the worse for the company they keep.

When out of place be cautious where you lodge; for living in a disreputable house puts you upon a footing with those that keep it, however innocent you are yourself.

Never go out on your own business without the knowledge of the family, lest in your absence you should be wanted; for leave is light, and returning punctually at the time you promise, shews obedience, and is a proof of sobriety.

If you are dissatisfied in your place, mention your objections modestly to your master or mistress, and give a fair warning, and don't neglect your business, nor behave ill in order to provoke them to turn you away; for this will be a blemish in your character, which you must always have from the last place you served.

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*The Philosophical Transactions, epitomized.—Continued.*

*The Second Journey from the Cape Town into the Southern Parts of Africa; undertaken for the Discovery of new Plants, towards the Improvement of the Royal Botanical Gardens at Kew. By Mr. Francis Masson, one of his Majesty's Gardeners.*

**M**Y second journey was performed in company with Dr. Thunberg, a native of Sweden; who was sent out by the Dutch to collect plants at the Cape, and is on that errand now in the Dutch East Indies.

Sept. 11, 1773, We left the Cape Town, directing our course along the N.W. Coast. We passed the Blue Mountains; but the weather proving rainy, and attended with a fog, we lost our intended road, and were obliged to lodge that night in the fields.

12th, We came to Groene Kloof, a place belonging to the East-India Company, where we remained several days, the weather being rainy and unsettled; during which time we made several excursions along the sides of the hills, and also over a large sandy desert towards the sea shore; where we found a great variety of beautiful plants, and several animals peculiar to this climate, viz. antelopes, ostriches, and plovers of several sorts.

19th, From Groene Kloof we passed a small hill, called Konter Berg; and from thence entered a large barren country, named Zwart Land, (Black Land.) The earth is a grey sand, level for many miles, and covered over with low shrubs of various sorts. At night we came to a farmer's house, where we remained two days, ranging the adjacent fields, in which we found many curious plants, and shot several animals, as steenbocken, hares, partridges, &c.



22d, Still, in the same direction, we travelled over a deep, sandy country with great fatigue; when, towards the evening, we arrived at Saldana Bay. Here we lodged with a farmer on the East side of the bay; but being desirous of crossing to a house inhabited by some of the company's servants, who during the summer season shoot seals for oil, on the 23d we made a signal for them to send their boat; which they immediately answered, and brought us over the bay, which is about two miles in breadth, where we were hospitably entertained by the master. I observed, that the direction of this bay is laid down wrong in all the maps that I have seen, except that of the Abbé De la Caille; they have given it a right East direction, whereas it has nearly a South direction, almost parallel to the sea coast, and, I suppose, almost twenty miles in length. The entrance of the bay is difficult, having several small islands in it, and the adjacent country being little better than a sandy desert, and the water brackish; it is, I think, improper for shipping. It lies about 50 miles N. N. W. from the Cape Town. We found here great variety of curious plants; and in particular, a large bulbous root growing on dry precipices, which the Dutch call *vergift-boll*, poison bulb; the juice of which, they say, the Hottentots use as an ingredient to poison their arrows. We found it to be a species of *amaryllis*, and, by the leaves growing in a fan shape, we called it *amaryllis difflua*.

27th, From Saldana Bay we journeyed to Witte Klip, (White Cliff) being a white granite stone of an enormous size; from the top of which we had a charming view of the sea coast from St. Helena Bay to the Cape of Good Hope. The whole country affords a fine field for botany, being enamelled with the greatest number of flowers I ever saw, of exquisite beauty and fragrance. Here we saw numbers of wild dogs, and some of them so near that I could discern them to be about the size of a large fox-hound. They go in large packs, and do great damage to the cattle. They also destroy the antelopes wherever they go, by hunting them down in the same manner as our hounds do a stag.

30th, To St. Helena Bay, where the Berg Rivier discharges itself, which is here very deep, and bordered on each side by extensive marshes that are impassable, and overgrown with very high reeds. Those reeds are plentifully stocked with birds of various sorts, which build their nests upon such of them as hang over the water. There is one bird, in particular, which has a wonderful effect among the green reeds; its body being a bright crimson, with black and grey wings; and by the brightness of their colours, when sitting among the reeds, they look like so many scarlet lillies: this is the *laxia orix* of Linnæus. There are still some of the sea horse, or *hippopotamus amphibius*, in this river; but it is now prohibited to shoot any of them, as they are nearly destroyed for 800 miles from the Cape. The farmers shoot them for their flesh, which they esteem as good as pork; and of their hide, which is extremely thick, they make whips. There happened at this time a great flood, that prevented our crossing the river at this place, and obliged us to travel four days up the river to a ferry, which greatly retarded our journey, and occasioned many difficulties by the deepness of the sand and the brackishness of the water; nor is there any wine or fruit in this part of the country, owing to the saltness of the soil.

Oct. 6th, We came to the pont or ferry, where we collected a great number of beautiful plants, particularly *ixia*, *irides*, and *gladioli*.

7th, We crossed the Berg Rivier, and entered a fine plain country, called 24 Rivieren District; so called from the number of small rivulets which run through that district, and discharge into the Berg Rivier. Here we had some four wines, and oranges and lemons in great plenty.

9th, We passed a branch of that chain of mountains which I mentioned in my first journey. They continue for many miles further to the N. W. gradually diminishing in height to the Western shore. This passage over the mountains is called Kartouw, and is remarked for being one of the most difficult in this part of Africa; which we found true, being obliged to lead our horses for three hours amidst incessant rain, which made the road so slippery that, by often tumbling among the loose stones, they had their legs almost stripped of the skin; and the precipices were so steep, that we were often afraid to turn our eyes to either side. Towards sun-set, with great labour and anxiety, we got safe to the other side, where we found a miserable cottage belonging to a Dutchman. Being however cold and wet, we were glad to take refuge under his roof. The hut had only one room; but our host gave us a corner to sleep in, which was detached by hanging of reed mats, where he and his wife also slept; and in the other end lay a number of Hottentots promiscuously together.

10th, We crossed the Olyfant's Rivier, nearly 130 miles North of the Cape Town, where we entered into a pleasant valley, bounded on each side by very high mountains; those on the East had their summits covered with snow, it being then their spring. This country produces good corn and European fruit in great plenty, especially oranges and lemons in the greatest profusion; and the trees grow to a great size. They have also wine, but it is sour and unwholesome; which, I think, may be owing to their planting their vines in wet, marshy places. The fruit yields watery juices, which seldom ripen, but produce good brandy. There is a hot bath here, which we visited, issuing from the side of a mountain. The water was nearly boiling hot at the place it issued out of the rock; and the people who used it affirmed, that it was hot enough to boil a piece of meat. I observed an orange-tree, which had been either raised from a single seed, or planted when very young, in a seam of the rock where the water boiled out, which, to my surprise, flourished amazingly, and all the sides of the basin where the people bathed were matted round with the fibres.

11th, 12th, 13th, 14th, We travelled along the banks of this river, making short stages. The meadows yielded excellent pasture for our cattle, the grass reaching up to their bellies, but of a coarse texture, being chiefly *juncus*, *scirpus*, and *cyperus*.

15th, We attempted to cross the high ridge of mountains on the North side; but found it impracticable, having overturned our waggons on the side of a precipice, and greatly damaged them, which obliged us to return to a peasant's house to get them repaired. This done, we held a consultation what course to take; and after some warm debates, concluded to send our waggons round to a place called Rood Land, there to wait for us, while the Doctor and I directed our course through a country called Koud Bocké Veld, or Cold Country of Antelopes; so named from a species of antelopes which inhabit here, called Springbock. This animal when hunted, instead of running, avails itself of surprizing springs or leaps, which I shall have occasion more particularly to mention hereafter.

17th, We directed our course Eastward through Elans Kloof, a narrow winding passage through a high chain of mountains, which lies to the N. E. of Olyfant's Rivier. This road is rugged beyond description, consisting of broken and shattered rocks and rugged precipices, encompassed on each side with horrid impassable mountains; the sides of which are covered with fragments of rocks that have tumbled down from the



summits at different times. We saw few plants here, only some trees of the *protea grandiflora* thinly dispersed along the skirts of these mountains. We crossed; in this passage, several small rivers of the purest water I ever beheld; which afforded us no small relief during the heat of the day. Towards the evening we entered the Koude Bocke Veld; and afterwards came to a peasant's house, where we remained that night.

18th, 19th, 20th. We travelled through the Koude Bocke Veld, where we found but few plants: the face of the country being exceedingly barren, and not so much as a shrub to be seen. The season here appeared to be two months later than in the neighbourhood of the Cape Town, although the distance be not above a hundred miles, in a direct line in a Northern direction. This country is but small, containing about nine or ten Dutch places, the inhabitants of which subsist entirely by their cattle. Their winters are often so severe, that the ground is covered with snow for ten days together; and their early calves and lambs are often killed by the inclemency of the weather. Neither orange trees nor vines will live here, owing to the bleakness of its situation; and the boots informed us, the summers are often so unkindly, that their wheat is blighted while in ear, so that they purchase corn with their cattle from the low country farmers. The country is encompassed on all sides with very high mountains, almost perpendicular, consisting of bare rocks, without the least appearance of vegetation; and upon the whole, has a most melancholy effect on the mind. We saw some herds of the springbucks, a species of antelope, as observed before, which were so shy, that we could not come within musket-shot of them.

21st. We descended by a very steep path into another small country, called Warm Bocke Veld, encompassed also on all sides with horrid mountains, but not nearly so barren. Here we had some sour wine and fruit; we were also delighted to see the luxuriance of the meadows, the grass reaching to our horses' bellies, enriched with great variety of *larks*, *gladioli*, and *irides*, most of which were in flower at the Cape in the month of August.

22d. We had a high chain of mountains to pass before we arrived at Rood Land, where we expected to meet our waggons. Upon enquiring about the road thither of the women, with whom we had lodged the preceding night, the men being all from home, so that we could not procure a guide; they informed us, there was only one pass, called Mostart's Hoek, which was very dangerous; and that, without a guide, we should run the risk of losing our lives, having a rapid river several times to cross, the fords of which, by the late rains, had been rendered more dangerous than usual. We were a little intimidated by this information; but fortifying ourselves with resolution, we proceeded, and in an hour arrived at the first precipice, where we looked down with horror on the river, which formed several cataracts inconceivably wild and romantic. This pass, which took us near three hours march, is at the broadest about a quarter of a mile, but in general not above an eighth part of one. The mountains on each side rising almost perpendicular to a stupendous height, had their summits then covered with snow, part of which remains till March. This river, which is the beginning of the Broad River, we had four times to cross. The ford was exceedingly rough, the bed of the river being filled with huge stones, which tumble down from the sides of the mountain; but we thought our labour and difficulties largely repaid by the number of rare plants we found here. The bank of the river is covered with great variety of evergreen trees, viz. *brabejum stellatifolium*, *kiggelaria Africana*, *myrtus angustifolia*, and the precipices

cipices are ornamented with *erice* and many other mountain plants never described before. At night we arrived at Rood Land, where we found our servants and waggons, and being a little fatigued we devoted the next day to rest and the examination of our plants. It is to be observed, that during the preceding five days we had rather shortened our distance from the Cape, by reason of the impossibility of taking the waggons over the mountains with us; so that we were now one day's journey nearer the Cape than we had been on Bocke Veld.

26th, We travelled up a high mountain, called Winter Hoek, on the N.W. of Rood Land, one of the highest mountains in this part of Africa, whose top is covered with snow the greatest part of the year. Here we expected to find plants that might endure the severity of our climate; but when we arrived at its top, we found nothing but a few grasses, *restiones*, *elegia*; the whole mountain consisting of rock, lying in horizontal strata, without any sort of earth, except a little decayed rock in which the grasses grew. From the foot of this mountain to its summit is a good day's journey, it being very rugged and difficult to mount. We found many curious plants growing along the borders of the streams, which run in great plenty down the mountain's side. Rood Land is a fine level country, surrounded on all sides by lofty mountains, except on the East, where the valley continues for several days journey inclosed by mountains on each side. Those on the Northern side continue for several hundred miles in an oblique direction; and terminate on the Eastern coast. This country produces corn and wine in abundance, and most of our European fruits, which have been planted there by the new inhabitants, who are descendants of the French refugees; a civil, hospitable, and industrious people.

28th, 29th, We continued our journey along the banks of the Broad River, where we collected many remarkably fine flowers, particularly one of the lilaceous kind, with a long spike of pendulous flowers, of a greenish azure colour, which among the long grass had an admirable effect (this is *ixia viridis*.)

30th, We crossed the Hexen Rivier, (Witches River) which has a passage through the mountains, and joins the Broad River; this place is also remarkable for a hot bath.

31st, We passed on to Ko Aree Rivier, where we found many new plants; in particular, *gerania* and *slapelia*.

Nov. 2d, To Koekman's Rivier, the banks of which are covered with thick woods, and furnished with a variety of birds, which afforded us good sport. The trees were mostly of the *minosa nilotica* of Linnæus; the species of the birds I have not yet determined, not being provided with books upon Ornithology to settle one half of those which I collected on this journey.

[The remainder of this Journey in our next.]

ARTICLE XIV.—*Observations on Respiration, and the Use of the Blood.* By Joseph Priestly, LL. D. F. R. S.

There is perhaps no subject in physiology that has engaged more attention than that of the use of respiration; but by what property it is that air contributes to the support of animal life, and why air that has been much breathed will no more answer the same purpose, seems not to have been discovered, till it in fact discovered itself in the course of the Doctor's researches into the properties of different kinds of air, which had at first quite another object.



In the course of these experiments it clearly appeared that respiration is a *phlogistic process* affecting air in the very same manner as every other phlogistic process affects it, whether by putrefaction, the effervescence of iron filings and brimstone, or the calcination of metals, &c. diminishing its quantity, lessening its specific gravity, and rendering it unfit for respiration or inflammation; but leaving it in a state capable of being restored to a tolerable degree of purity by agitation in water, &c. Having made this discovery, the Doctor concluded that the use of the lungs is to carry off a putrid effluvia, or to discharge that phlogiston which had been taken into the system with the aliment, and was become as it were effete; the air that is respired serving as a menstruum for that purpose. However, what he then concluded to be the use of respiration in general, he has now (he thinks) proved to be effected by means of the blood, in consequence of its coming so nearly into contact with the air in the lungs; the blood appearing to be a fluid wonderfully formed to imbibe and part with that principle which the chemists call phlogiston, and changing its colour in consequence of being charged with it, or being freed from it; and affecting air in the very same manner, both out of the body and in the lungs; and even notwithstanding the interposition of various substances, which prevent its coming into immediate contact with the air.

Before the Doctor relates his own experiments, he recites the opinions of Haller, Hippocrates, Galen, Lister, Whytt, Boerhaave, Hales, Hewson, &c. concerning the use of respiration; and then observes, that it may appear something extraordinary, that among such a variety of opinions, the right one should never have been so much as conjectured.

Respiration then being in reality a true phlogistic process; and since all the blood in the body passes thro the lungs, in which the remarkable change between the colour of the venal and arterial blood takes place; the Doctor thinks it can hardly be doubted that it is by means of the blood that the air becomes phlogisticated in passing through the lungs; and therefore, that one great use of the blood must be to discharge the phlogiston with which the animal system abounds, imbibing it in the course of its circulation, and imparting it to the air with which it is nearly brought into contact in the lungs; the air thus acting as the great menstruum for this purpose.

So great a problem deserving as much illustration as could be given to it, the Doctor was willing to try whether the blood was of such a nature as to retain any of this power of affecting air when congealed and out of the body, that it has when it is fluid and in the body; and the experiments have fully answered his expectations; but for these we must refer to the article itself.

Mr. Hewson observed, that as the colour of the blood is changed by air out of the body, it is presumed, the air in the lungs is the immediate cause of the same change in the body, and that this change

change is really produced in the lungs ; but how this effect is produced is not yet determined. Nitre having a similar effect on the colour of the blood, some have attributed this difference to the nitre absorbed from the air while in the lungs ; but this, he says, is a mere hypothesis, for air contains no nitre.

In answer to this, Dr. Priestly ascribes this effect to the air ; especially since he has proved, as he apprehends, that atmospherical air consists of earth and spirit of nitre. Possibly therefore the air we breath may be so far decomposed, as to communicate something of nitre to the blood in its passage through the lungs.

The Doctor concludes with observing, that as the principal use of the blood seems to be its power of receiving and discharging the phlogiston, and the degree in which it possesses this power is easily ascertained by the age, it might not be unworthy of being particularly attended to by physicians. To estimate the goodness of blood according to this criterion nothing is requisite but to observe the lightness of the colour, and the depth of the light-coloured stratum, after it has been exposed to the air for a given time. In cases in which the blood is unusually black, and but little affected by common air, it should seem that breathing a purer air might be prescribed with advantage.

ARTICLE XV.—*Easy Methods of measuring the Diminution of Bulk, taking place upon the Mixture of common Air and nitrous Air; together with Experiments on Platina. By John Ingenhousz, M. D. F. R. S. Physician to their Imperial Majesties at Vienna. In a letter to Sir John Pringle, Bart. P. R. S.*

The first of these *easy* methods is that of the learned Abbé FONTANA ; but it seems the Doctor found it a *difficult* matter to force always just the same quantity of nitrous air into the vessel, and if this quantity is not always just the same, some variety must happen in every experiment, and thus an exact valuation of the quantity of air absorbed cannot well be made. To obviate in some measure this difficulty, and to abridge the experiment by mixing suddenly the two airs together, he contrived an instrument, of which a drawing accompanied this article ; but this did not shew the diminution of the two airs so exactly as he could have wished. He then contrived another method more simple, and *perhaps* more accurate, which we have not room to insert, and indeed we are the less solicitous about it from his informing Sir John Pringle that it requires some practice to perform this [EASY, SIMPLE] experiment with dexterity.

In making some experiments with platina, he found that on filling a small tube with the particles of that stubborn metal, and directing five or six electrical explosions from three very large jars through the tube, that all the particles appeared in several places to have been melted, and some little ones seemed to have been intirely in a fluid state ; so that though platina by itself is not at all fusible in a common fire, it is evidently so by an electrical one.

ARTICLE



ARTICLE XVI.—*Experiments on Water obtained from the melted Ice of Sea-Water, to ascertain whether it be fresh or not; and to determine its specific gravity with respect to other water. Also Experiments to find the degree of cold in which sea-water begins to freeze. By Mr. Edw. Nairne. Addressed to Sir John Pringle, Bart. P. R. S.*

These experiments were made in consequence of it having been suggested, in a conversation at which Mr. Nairne was present, that the ice of sea water is not fresh; and that if the ice found near the Poles be really so, it must probably be the ice of fresh water discharged into the sea from large rivers in those parts.

It appears from these experiments that the ice of sea-water is perfectly fresh; and that the freezing point of sea-water should be fixed in Fahrenheit's scale at 28.5.

In order to ascertain the comparative gravity of several waters, he carefully weighed them, having previously brought them to the same degree of heat by a thermometer. The results were as follow, viz.

|                                                                                   | Grains. |
|-----------------------------------------------------------------------------------|---------|
| Water obtained from the melted ice of the sea-water,                              | 1614    |
| Distilled rain water,                                                             | 1612    |
| Water taken out of a tub, being a mixture of rain and snow water,                 | 1615    |
| Sea-water,                                                                        | 1653    |
| The residuum of the sea-water from which the ice before mentioned had been taken, | 1659    |

ARTICLE XVII.—*Meteorological Journal, kept at the House of the Royal Society, by order of the President and Council.*

A Committee of the Society lately appointed to regulate certain matters relating to Meteorology have determined, that the Society's Meteorological Year shall, from this time forward, commence with the month of March; to the end, that every such year may consist one entire summer and one entire winter, rather than of the pieces of two different winters with the entire summer intervening, as must always be the case when the Meteorological Year, in conformity to the civil reckoning, begins with the month of January.

It appears from this journal that the mean height of the thermometer without for the whole year was 51.5—of the thermometer within 52.7—and of the barometer 29.833. The mean of all the observations made with the magnetic needle in part of June and July was 21°. 43,—and of the dipping needle during the same period, 72°. 30', which concludes this part of the volume.

#### E R R A T A.

In our last, p. 206, for Constantine the Great, read Constantine the IVth. P. 224, for three read twenty; and for Supreme King, read Supreme Being. P. 223, for light tinhead, read light timbered.

POETRY.

P O E T R Y.

HYMENIAL CAUTIONS to  
the FAIR SEX.

**I**N youth's gay bloom, ye lovely fair,  
Whilst ease, and affluence banish  
care;

You, in soft pleasures waste the day,  
Amidst the debonair and gay;  
With candour read, and care attend,  
These gentle strictures of a friend;  
Which well observ'd, secure you'll tread,  
By conscious peace, and virtue lead,  
Of life the tragi-comic stage,  
Amidst a vain, licentious age.

Shun the weak *Fop*, whose only care  
Is to adjust his dress, and air;  
Who self-enamour'd, ne'er to you  
Respect or tenderness can shew.  
The Rattle, Rake, and Debauchee,  
Who place their bliss in luxury;  
In taverns, stews, and sports, and noise,  
Averse to calm, domestic joys.  
The Infidel, whose daring aim  
Is all religion to defame;  
Who'll vow, protest, his honour plight,  
Then laugh to scorn each sacred rite.  
The plodding Cit, whose anxious mind  
To stocks and trade alone confin'd,  
The arts of pleasing must detest,  
When of your wealth, and you possess.  
The Sportsman rude, & sullen Clown,  
Whose features ever wear a frown;  
Whose vulgar ways, & awkward mein,  
Excite disgust, and raise the spleen.  
Each sordid wretch, who hopes in vain  
Your hearts by settlements to gain,  
Rates female merit, wit and sense,  
By pounds, by shillings, and by pence.

Detesting these with all their wiles,  
Affected compliments, and smiles;  
Whene'er you condescend to wed,  
Chuse for the partner of your bed  
Whom virtue, and religion guide,  
From these extremes of vice and pride;  
Descended from a worthy line,  
In person, graceful, (if not fine)  
By happy nature form'd to please,  
By blending dignity with ease;  
Discreetly gay, politely bred,  
In men and science duly read,  
You or your friends to entertain,  
With serious or amusive vein;  
To gain respect in public life,  
To shun in private petty strife:  
By counsel aid, by reason sway,  
As love and duty point the way,

Your views enlarge, your tastes refine,  
And fit your souls for joys divine.

When such bright youths attract  
your choice,  
Regardless of the public voice,  
Or wealth, or state, those tinsel things,  
From whence no real comfort springs;  
"Health, peace, and competence,"  
you know,  
Are all you can enjoy below:  
Of these secure, with those you prize,  
The arts of Coquetry despise;  
With gen'rous warmth their suits ap-  
prove,

For love alone can cherish love;  
That tender sympathy inspire,  
And mutual fervour of desire,  
Which sanctify the nuptial rite,  
With constant and serene delight;  
Make each revolving period sweet,  
And bliss, if bliss on earth, complet.

A V I S I O N.

**S**WEET sleep my heavy eye-lids  
press'd,  
And gently sooth'd my cares to rest;  
When straight my waking soul beheld  
A rich enamel'd verdant field,  
A thousand flowers of lovely hue,  
Painted by nature's pencil grew;  
And here and there a fountain play'd,  
Discover'd thro' some op'ning glade.  
Sweet music charm'd my ravish'd ear,  
And paradise itself seem'd there.  
And now methought a lovely train  
Of youths and damsels fill'd the plain;  
They pip'd and play'd, and danc'd and  
sung,

The meadows with their music rung:  
But soon their merry pastimes cease:  
For lo! with aspect grim, Disease,  
With her attendants, Grief and Pain,  
Came swiftly posting to the plain.  
And now methought th' enamel'd  
greens,

The painted flow'rs and golden scenes,  
No more appear'd!—no longer smil'd:  
But horrid desarts, vast and wild,  
I saw—rude mountains seem'd to rise,  
And piercé, with barren tops, the skies.  
The raven croak'd, the night owl  
scream'd,  
And from the clouds fierce light'ning  
gleam'd: Con-



Consumption weak, with meagre face,  
Seiz'd some—tho' feeble was her pace:  
Some fever bound in burning chains;  
And others cholic rack'd with pains:  
Some gout surpriz'd, and others stone—  
My ears were pierc'd with many a  
groan;

They call'd on death with hideous cry,  
Death soon appear'd (for death was  
nigh;)

All pale and wan he seem'd to stand,  
A deadly dart was in his hand,  
A crown upon his head he wore,  
And in one hand a picture bore;  
Upon the canvas, flames of fire,  
And horrid shapes, and spectres dire,  
With wond'rous skill, were drawn—  
the crowd

Bebeld—they saw, and shriek'd aloud!  
With longing eyes they view'd the road  
Where Virtue leads her sons to God;  
And curs'd vain pleasure's flatt'ring  
smile,

Which did their easy hearts beguile:  
And tempt them Virtue's paths to fly,  
The paths to blest Eternity.

Shock'd at the sight, I turn'd aside:  
When lo! my ravish'd eyes descri'd  
Fair Virtue's sons (a glorious crew!)  
How did my raptur'd bosom glow!  
Some cares & toils, 'tis true, the good  
Bore, as they pass'd thro' Virtue's road;  
But blooming Health, and fair Content,  
Their comforts and assistance lent;  
And Conscience, as they pass'd along,  
Whisper'd sweet peace thro' all the  
throng.

While Virtue bad her sons rejoice,  
Like heav'nly music was her voice!  
"Soon shall life's stormy seas subside,  
"And all be calm & smooth (she cry'd)

"When life's declining sun is low,  
"And night o'ertakes you, as you go;  
"Fear not—some gleams shall then be  
giv'n,  
"Of endless bliss and promis'd heav'n;  
"And if from me you never stray,  
"I'll lead you to Eternal Day."

### The HARDY SOLDIER.

Why is man so thoughtless grown?  
Why guilty souls in haste to die?  
Vent'ring the leap to worlds unknown,  
Heedless, to arms and blood they fly.

Are lives but worth a soldier's prey?  
Why will ye join such wide extremes,  
And stake immortal souls in play  
At desperate chance & bloody games?

VALOUR's a noble turn of thought,  
Whose pardon'd guilt forbids her  
fears:

Calmly she meets the deadly shot,  
Secure of life above the stars.

But FRENZY dares eternal Fate,  
And spur'd with Honour's airy  
dreams,

Flies to attack th' infernal gate,  
And force a passage to the flames.—

Thus hov'ring o'er the Western\* plains,  
Sung heavenly love in Gabriel's  
form;

Young THRASO felt the moving strains,  
And vow'd to pray before the storm.

Anon the thund'ring trumpet calls,  
Voices are but wind, the Hero cries;  
Then swears by Heaven,—and scales  
the walls,

Drops in the ditch—despairs—and dies.

\* America.

### CORRESPONDENCE.

WE are greatly obliged to Mr. John Wh\*\*e for the favourable opinion he entertains of our Magazine. His offer of a design for a Farm-house and offices, is kindly accepted; at the same time we wish to have the *scale* adapted to the size of our work. We hope he will not be displeased at our hinting, that many new Farm-houses are much too large; hence we often see very good rooms used for apples, corn, &c.

W. J. desires our correspondents to favour him with a receipt to discharge the stains of red wine from light-coloured cloth or linen.

A great many of the Marquis of Worcester's *inventions* are either whimsical, paradoxical, or impracticable. If our *Mechanical Correspondent* will illustrate the few useful ones, we will oblige him by inserting them.

# The Farmer's Magazine,

A N D

## Useful FAMILY COMPANION:

NUMBER VIII. (for November 1776,) Price 6d.

Embellished with a neatly engraved Copper-plate of Madder.

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To which is added, A GENERAL DICTIONARY of Husbandry, Planting, Gardening, and the Vegetable Part of the *Materia Medica*: Containing a great Variety of new and useful matter, with many original Articles.

By AGRICOLA SYLVAN, Gentleman.

Printed for W. GOLDSMITH, No. 24, in Pater-noster-Row;  
And R. CRUTTWELL, in BATH;  
And sold by every Bookseller, Stationer, and News-Carrier, in the Kingdom.



# Average PRICES of CORN, from Nov. 11, to Nov. 16.

By the Standard Winchester Bushel of Eight Gallons.

| Wheat Rye Barley Oats Beans |       |       |       |       | COUNTIES upon the COAST. |    |    |    |            |                               |         |    |    |   |    |         |       |    |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
|-----------------------------|-------|-------|-------|-------|--------------------------|----|----|----|------------|-------------------------------|---------|----|----|---|----|---------|-------|----|-----------|------------|------------|----|----|---|----|------------|----|------------|----|----|---|---|---|----|---|---|---|---|
| s. d.                       | s. d. | s. d. | s. d. | s. d. | Effex                    | 4  | 6  | 2  | 2          | 0                             | 3       | 3  |    |   |    |         |       |    |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| London                      | 4     | 8     | 3     | 0     | 2                        | 3  | 1  | 11 | 2          | 11                            | Suffolk | 4  | 6  | 2 | 10 | 1       | 10    | 1  | 10        | 2          | 9          |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| COUNTIES INLAND.            |       |       |       |       | Norfolk                  | 4  | 3  | 2  | 10         | 1                             | 9       | 1  | 9  | 2 | 10 | Lincoln | 4     | 3  | 2         | 1          | 9          | 1  | 7  | 3 | 2  |            |    |            |    |    |   |   |   |    |   |   |   |   |
| Middlesex                   | 5     | 0     | 2     | 4     | 2                        | 3  | 3  | 2  | York       | 4                             | 7       | 2  | 11 | 1 | 4  | 1       | 7     | 3  | 9         | Durham     | 4          | 6  | 3  | 6 | 1  | 0          | 1  | 8          | 4  | 10 |   |   |   |    |   |   |   |   |
| Surry                       | 4     | 10    | 2     | 7     | 2                        | 2  | 3  | 9  | Northumb.  | 4                             | 2       | 3  | 2  | 1 | 0  | 1       | 6     | 2  | 0         | Cumberland | 4          | 6  | 2  | 9 | 1  | 2          | 1  | 5          | 3  | 0  |   |   |   |    |   |   |   |   |
| Hertford                    | 4     | 9     | 2     | 4     | 2                        | 1  | 3  | 8  | Westmorel. | 4                             | 6       | 1  | 1  | 1 | 5  | 1       | 10    | 3  | 11        | Westmorel. | 4          | 6  | 1  | 1 | 1  | 5          | 1  | 10         | 3  | 11 |   |   |   |    |   |   |   |   |
| Bedford                     | 4     | 8     | 3     | 1     | 2                        | 1  | 11 | 3  | 0          | Lancashire                    | 5       | 1  | 1  | 5 | 1  | 10      | 3     | 11 | Cheshire  | 4          | 10         | 1  | 4  | 1 | 7  | Northampt. | 4  | 11         | 2  | 5  | 2 | 0 | 1 | 11 | 3 | 1 |   |   |
| Cambridge                   | 4     | 11    | 2     | 1     | 1                        | 8  | 2  | 7  | 1          | Monmouth                      | 5       | 3  | 1  | 2 | 1  | 6       | 3     | 2  | Rutland   | 4          | 8          | 2  | 2  | 1 | 11 | 3          | 4  | Leicester  | 4  | 9  | 2 | 2 | 1 | 10 | 3 | 8 |   |   |
| Huntingdon                  | 4     | 8     | 2     | 1     | 1                        | 8  | 3  | 1  | 1          | Somerfet                      | 5       | 6  | 3  | 3 | 1  | 4       | 1     | 8  | 3         | 1          | Nottingham | 4  | 6  | 3 | 0  | 2          | 3  | 1          | 9  | 3  | 4 |   |   |    |   |   |   |   |
| Northampt.                  | 4     | 11    | 2     | 5     | 2                        | 0  | 1  | 11 | 3          | Devon                         | 5       | 9  | 1  | 3 | 1  | 4       | Derby | 4  | 11        | 2          | 6          | 1  | 11 | 3 | 10 | Stafford   | 4  | 11         | 3  | 4  | 2 | 3 | 1 | 9  | 3 | 9 |   |   |
| Rutland                     | 4     | 8     | 2     | 2     | 1                        | 11 | 3  | 4  | 1          | Cornwall                      | 5       | 1  | 1  | 1 | 1  | 5       | Salop | 4  | 8         | 2          | 9          | 2  | 0  | 1 | 7  | 3          | 0  | Hereford   | 4  | 8  | 2 | 0 | 1 | 11 | 3 | 0 |   |   |
| Leicester                   | 4     | 9     | 2     | 2     | 1                        | 10 | 3  | 8  | 1          | Dorset                        | 5       | 3  | 1  | 3 | 1  | 11      | 3     | 7  | Worcester | 4          | 10         | 2  | 8  | 2 | 4  | 1          | 11 | 3          | 10 |    |   |   |   |    |   |   |   |   |
| Nottingham                  | 4     | 6     | 3     | 0     | 2                        | 3  | 1  | 9  | 3          | Hampshire                     | 4       | 10 | 2  | 4 | 2  | 2       | 3     | 2  | Warwick   | 5          | 1          | 2  | 6  | 2 | 3  | 3          | 11 | Gloucester | 4  | 10 | 2 | 3 | 1 | 9  | 3 | 2 |   |   |
| Derby                       | 4     | 11    | 2     | 6     | 1                        | 11 | 3  | 10 | 1          | Suffex                        | 4       | 7  | 2  | 4 | 2  | 0       | 3     | 1  | Wilts     | 4          | 11         | 2  | 4  | 2 | 0  | 3          | 11 | Berks      | 4  | 10 | 4 | 0 | 2 | 3  | 2 | 1 | 3 | 1 |
| Stafford                    | 4     | 11    | 3     | 4     | 2                        | 3  | 1  | 9  | 3          | Kent                          | 5       | 10 | 2  | 7 | 2  | 1       | 2     | 10 | Oxford    | 5          | 3          | 2  | 3  | 2 | 1  | 3          | 2  | Bucks      | 4  | 8  | 2 | 2 | 2 | 0  | 3 | 0 |   |   |
| Salop                       | 4     | 8     | 2     | 9     | 2                        | 0  | 1  | 7  | 3          | From Nov. 4, to Nov. 9, 1776. |         |    |    |   |    |         |       |    |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| Hereford                    | 4     | 8     | 2     | 0     | 1                        | 11 | 3  | 0  | 1          | WALES.                        |         |    |    |   |    |         |       |    |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| Worcester                   | 4     | 10    | 2     | 8     | 2                        | 4  | 1  | 11 | 3          | No. Wales                     | 5       | 0  | 3  | 9 | 2  | 2       | 14    | 3  | 3         | So. Wales  | 4          | 11 | 4  | 0 | 2  | 7          | 14 | 2          | 8  |    |   |   |   |    |   |   |   |   |
| Warwick                     | 5     | 1     | 2     | 6     | 2                        | 3  | 3  | 11 | 1          | Part of SCOTLAND.             |         |    |    |   |    |         |       |    |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| Gloucester                  | 4     | 10    | 2     | 3     | 1                        | 9  | 3  | 2  | 1          | Wheat                         | 3       | 8  | 1  | 7 | 1  | 4       | 1     | 9  | 1         |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| Wilts                       | 4     | 11    | 2     | 4     | 2                        | 0  | 3  | 11 | 1          | Rye                           | —       | —  | —  | — | —  | —       | —     | —  |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| Berks                       | 4     | 10    | 4     | 0     | 2                        | 3  | 2  | 1  | 3          | Barley                        | —       | —  | —  | — | —  | —       | —     | —  |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| Oxford                      | 5     | 3     | 2     | 3     | 2                        | 1  | 3  | 2  | 2          | Oats                          | —       | —  | —  | — | —  | —       | —     | —  |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |
| Bucks                       | 4     | 8     | 2     | 2     | 2                        | 0  | 3  | 0  | 0          | Beans                         | —       | —  | —  | — | —  | —       | —     | —  |           |            |            |    |    |   |    |            |    |            |    |    |   |   |   |    |   |   |   |   |

The ASSIZE of BREAD, as set by the Lord-Mayor of London, Tuesday, Nov. 11th.

|                            | lb. oz. dr.      |            | lb. oz. dr. |
|----------------------------|------------------|------------|-------------|
| The Penny Loaf, Wheaten,   | 0 10 8           | Household, | 0 14 4      |
| Two-penny Loaf, Wheaten,   | 1 5 0            | Household, | 1 12 8      |
| Three-penny Loaf, Wheaten, | 2 15 8           | Household, | 2 10 12     |
| To weigh,                  | To be sold for,  |            |             |
| lb. oz. dr.                | s. d.            |            |             |
| The Peck, 17 6 0           | Wheaten, 2 2     |            |             |
|                            | Household, 1 7 1 |            |             |
| Half Peck, 8 11 0          | Wheaten, 1 1     |            |             |
|                            | Household, 0 9 1 |            |             |
| Quartern, 4 5 8            | Wheaten, 0 6 1   |            |             |
|                            | Household, 0 5   |            |             |

## PRICES of STOCKS.

Bank Stock, —. India 167½. — South Sea, —. Old Ann. —. New Ann. 80 ½ a ½. 3 per cent. Red. 81½. 3 per cent Conf. 92 ½. 3 per cent 1726, —. 3 per cent 1751, —. Annuities, —. 3 ½ per cent. 1758, —. 4 per cent Con. 84 ½. Bonds, 418 a 428 pre. Navy & Vict. Bills, —. Long Ann. 25 ½. Scrip. —. Lottery Tickets, 131.

## SMITHFIELD-MARKET.

Beef, per lb. 2d. to 3d.  
Veal, — 3d. to 4d.  
Pork, 2d. to 4d.  
Mutton, 2d. to 3d.  
Lamb, 1l. 18s. to 2l. per head.

PRICE of CORN at MARK-LANE, Monday, Nov. 18.

|                         |               |
|-------------------------|---------------|
| Wheat, per quarter,     | 35s to 41s od |
| Barley, —               | 17s to 23s od |
| Rye, —                  | 23s to 24s od |
| Brown Malt, —           | 23s to 26s cd |
| Pale ditto, —           | 23s to 28s od |
| Oats, —                 | 13s to 18s 6d |
| Effex Beans, —          | 24s to 29s od |
| Tick, —                 | 20s to 25s od |
| Boiling Pease, —        | 33s to 36s od |
| Hog ditto, —            | 28s to 31s od |
| Tares, —                | 24s to 30s od |
| Fine Flour, per Sack, — | 34s           |
| Second ditto, —         | 30s           |
| Third ditto, —          | 27s           |

Return of the Sale of Wheat at Bear-Key, Monday, Nov. 18.

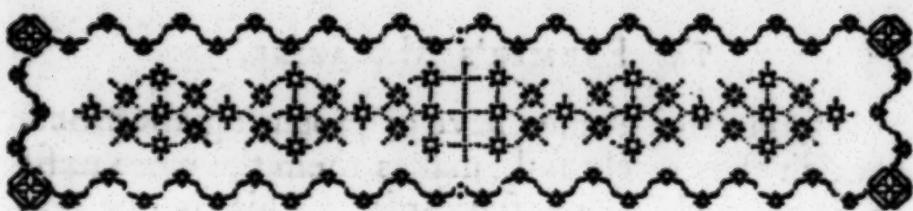
|                      |                    |
|----------------------|--------------------|
| 100 Q. at 41s. od.   | 443 Q. at 38s. od. |
| 60 do. at 40s. 6d.   | 25 do. at 37s. 6d. |
| 1635 do. at 40s. od. | 13 do. at 33s. 6d. |
| 110 do. at 39s. 6d.  |                    |
| 558 do. at 39s. od.  | Wheaten flour 33   |
| 524 do. at 38s. 6d.  | and 36s per sack.  |

Price of HOPS in the Borough,

New Bags, — 2l. os. to 4l. os.  
Old Bags, — 1l. 10s. to 3l. os.

## WHITECHAPEL.

Hay, 3l. 12s. to 4l. 2s. 7 Load.  
Straw, 1l. 18s. to 2l. os. 3 Ton.



T H E  
FARMER'S MAGAZINE.



*A DISSERTATION on the Progress and present State of  
AGRICULTURE. [Continued.]*

**B**EFORE we discovered America, the Indians wanted spirituous liquors; but now the acquirement of these is the principal end they pursue, in their treaties with us; and from this they suffer inexpressible calamities; for having once began to drink, they can preserve no measure, but continue a succession of drunkenness as long as their means of procuring liquor lasts. In this condition they lie exposed to all the inclemency of the seasons, which wastes them by a train of the most fatal disorders. They perish in rivers and marshes; they tumble into the fire; they quarrel, and very frequently murder each other; in short, excess in drinking among this uncivilized people, is a public calamity. The few among them who live free from this evil, enjoy the reward of their temperance in a robust and healthy old age.

Though the women have generally the laborious part of the œconomy upon themselves, yet they are far from being the slaves they appear; on the contrary, all the honours of the nation are on the side of the women. They even hold their councils, and have their share in all deliberations which concern the state. No nation among them is without a regular marriage, in some of which there are many ceremonies; the principal of which is, the bride's presenting the bridegroom with a plate of corn. Their marriages are not fruitful, seldom producing more than two or three children; probably that severe life which both sexes lead, is not favourable to procreation; and the



habit unmarried women have of procuring abortions, in which they rarely fail, makes them the more unfit for bearing children afterwards. This is one reason of the depopulation of America; for whatever losses they suffer, either by epidemical disorders or by war, are repaired slowly. The children are generally born without help, when they are immediately dipped into cold water and washed, which is repeated every morning for a long time, by which means they acquire such strength, that they are never deformed or rickety.

Almost the sole occupation of the Indian is war, or such an exercise as qualifies him for it; his whole glory consists in this. His cruelty to the prisoners is inconceivable; the women forgetting the human as well as the female nature, seem transformed into something worse than furies, and even out-do the men in this scene of horror.

The Indians have scarce any temples for religious worship. Some of them appear to have very little idea of God. Others entertain better notions. They have some ceremonies that seem to shew they had once a more regular form of religious worship; for they make a sort of oblation of their first fruits, and have in their festivals many things that very probably came from a religious origin. They are great observers of omens and dreams, and pry into futurity with great eagerness; hence they abound in diviners, augurs, and magicians.

As to religion among the Cherokees, says Lieut. *Timberlake*, in his *Memoirs*, every one is at liberty to think for himself, whence flows a diversity of opinions among those that do think, but the major part do not give themselves that trouble. They generally concur however, in the belief of one Superior Being, who made them and governs all things, and are therefore never discontented at any misfortune, because they say, 'the MAN above would have it so.' They believe in a reward and punishment, and say, 'they know very well, that if they are good, they shall

‘ shall go up ; if bad, they shall go down ; and that  
‘ no preacher can tell them more.’

They have few religious ceremonies, or stated times of worship. The *green corn* dance seems to be the principal, which (as I have heard) is performed in a very solemn manner, in a large square before the town-house door : the motion here is very slow, and the song, in which they offer thanks to God for the corn he has sent them, is far from unpleasing.

It may not, perhaps, be unentertaining to add here, some farther account of the Indians, by the celebrated Major Rogers. They have, says he, a command of every passion except revenge, beyond what philosophers or christians *usually* attain to. You may see them bearing the most sudden and unexpected misfortunes with calmness and composure of mind, without a word or change of countenance ; even a prisoner, who knows not where his captivity may end, or whether he may not in a few hours be put to a most cruel death, never loses a moment’s sleep on this account ; and eats and drinks with as much cheerfulness as those into whose hands he has fallen.

Their courage and resolution under sickness and pain, is truly surprizing. A young woman will be in labour a whole day (but this is very rare) without uttering one groan or cry ; should she betray such a weakness, they would immediately say, that she was unworthy to be a mother, and that her offspring could not fail of being cowards. Nothing is more common than to see persons, young and old of both sexes, supporting themselves with such constancy under the greatest pains and calamities, that even when under those shocking tortures which prisoners are frequently put to, they will not only make themselves cheerful, but provoke and irritate their tormentors, with most cutting reproaches.

Their method of declaring war is very solemn, and attended, as the Major says, with many ceremonies of terror. In the first place, they call an assembly



bly of the Sachems, [old men] and warriors, to deliberate on the affair; in which congress the women have a voice, as well as the men. Take our author's farther account in his own words :

“ When they are assembled, the president or chief sachem proposes the affair they have met to consult upon, and, taking up the hatchet (which lies by him) says, who among you will go and fight against such a nation ? who amongst you will go and bring captives from thence, to replace our deceased friends, that our wrongs may be avenged, and our name and honour maintained as long as rivers flow, grass grows, or the sun and moon endure ? He having thus said, one of the principal warriors rises, and harangues the whole assembly ; and then addresses himself to the young men, and inquires, who among them will go along with him and fight their enemies ? when they generally rise, one after another, and fall in behind him, while he walks round the circle or parade, till he is joined by a sufficient number. Generally at such a congress, they have a deer, or some beast roasted whole : and each of them, as they consent to go to war, cuts off a piece and eats, saying, this way will I devour our enemies, naming the nation they are going to attack. All that chuse, having performed this ceremony, and thereby solemnly engaged to behave with fidelity and as a good warrior, the dance begins, and they sing the war song ; the matter of which relates to their intended expedition and conquest, or to their own skill, courage and dexterity in fighting, and to the manner in which they will vanquish and extirpate their enemies ; all which is expressed in the strongest and most pathetic manner, and with a tone of terror. So great is the eloquence or influence of their women in these consultations, that the final result very much depends upon them. If any one of these nations, in conjunction with the chiefs, has a mind to excite one, who does not immediately depend upon them, to take part in the war,

war, either to appease the manes of her husband, son, or near relation, or to take prisoners, to supply the place of such as have died in her family, or are in captivity, she presents, by the hand of some trusty young warrior, a string of wampum to the person whose help she solicits; which invitation seldom fails of its desired effect. And when they solicit the alliance, offensive or defensive, of a whole nation, they send an embassy with a large belt of wampum, and a bloody hatchet, inviting them to come and drink the blood of their enemies. The wampum made use of on these and other occasions, before their acquaintance with the Europeans, was nothing but small shells, which they picked up by the sea-coasts and on the banks of the lakes: and now it is nothing but a kind of cylindrical beads, made of shells white and black, which are esteemed among them as silver and gold are among us. The black they call the most valuable, and both together are their greatest riches and ornaments; these among them answering all the ends that money does among us. They have the art of stringing, twisting, and interweaving these into their belts, collars, blankets, moccasins, &c. in ten thousand different sizes, forms and figures, so as to be ornaments for every part of dress, and expressive to them of all their important transactions. They dye the wampum of various colours and shades, and mix and dispose them with great ingenuity and order, and so as to be significant among themselves of almost any thing they please: so that by these their records are kept, and their thoughts communicated to one another, as ours are by writing. The belts that pass from one nation to another, in all treaties, declarations, and important transactions, are carefully preserved in the palaces or cabbins of their chiefs, and serve not only as a kind of record or history, but as a public treasure. It must, however, be an affair of national importance in which they use collars or belts, it being looked upon as a  
very



very great abuse and absurdity to use them on trifling occasions. Nor is the calumet or pipe of peace of less importance, or less revered among them in many transactions, relative both to war and peace. The bowl of this pipe is made of a kind of soft red stone, which is easily wrought and hollowed out; the stem is of cane, elder, or some kind of light wood, painted with different colours, and decorated with the heads, tails and feathers of the most beautiful birds, &c. The use of the calumet is to smook either tobacco, or some bark-leaf, or herb, which they often use instead of it, when they enter into an alliance, or on any serious occasion, or solemn engagements; this being among them the most sacred oath that can be taken, the violation of which is esteemed most infamous, and deserving of severe punishment from Heaven. When they treat of war, the whole pipe and all its ornaments are red; sometimes it is red only on one side, and by the disposition of the feathers, &c. one acquainted with their customs will know, at first sight, what the nation who presents it intends or desires. Smoking the calumet is also a religious ceremony upon some occasions, and in all treaties is considered as a witness between the parties; or rather as an instrument by which they invoke the sun and moon to witness their sincerity, and to be, as it were, guarantees of the treaty between them. This custom of the Indians, though to appearance somewhat ridiculous, is not without its reasons; for, they finding smoking tended to disperse the vapours of the brain, to raise the spirits and qualify them for thinking and judging properly, introduced it into their counsels, where, after their resolves, the pipe was considered as a seal of their decrees, and, as a pledge of their performance thereof, it was sent to those they were consulting an alliance or treaty with: so that smoking among them in the same pipe is equivalent to our drinking together, and out of the same cup."

[To be continued.]

ARTICLE

## ARTICLE II.

*The natural History and Cultivation of BURNET.*

[To illustrate the Plate in the Farmer's Magazine No. VI.]

**T**HERE have been many disputes about the true name and species of this plant. It seems, however, to be pretty generally agreed, that it is the *Pimpinella* of Linnæus, and the *Tragopelinum* of Tournefort, and to be the plant commonly known by the Great Meadow Burnet. But till botanists give us better descriptions, we shall leave them to settle the true meaning of their own terms. The French call it *Boucage*.

The discovering a winter pabulum for cattle, was thought to be an object highly meriting the attention of the Society for the encouragement of arts, &c. Their secretary was directed to write to the persons distinguished for knowledge in matters of this kind in every part of Europe, to enquire what was the practice in their respective countries as to this point, and likewise to beg their own private opinions regarding it. Their answers supplied but little light, by no means affording the so much wished for information.

The late Mr. Rocque, a gardener, offered Burnet as being peculiarly suited to this purpose, from its hardiness in retaining its vegetation in winter, its early growth in the spring, and its copious product in summer. The Society having seen specimens of the plant at different seasons of the year, were led to believe, that burnet would prove a winter food for cattle, and accordingly offered premiums for the cultivating of it. These premiums had the desired effect, and burnet was cultivated both in drill and broad-cast, in many parts of the kingdom.

Farmers are however much more likely to adopt the broad-cast than the drill; and this or any other plant can be of little advantage to the nation till its cultivation be generally adopted by Farmers.

The land on which it is sown, should be in fine order, laid down very smooth, and as free as possible from weeds, especially couch-grass. The harrow mentioned in our last for cleaning lucerne, is one of the best instruments for extirpating this weed. About fourteen pounds of burnet-seed is usually sown on an acre. Half this quantity would be nearly or quite sufficient if the seed was good, which it seldom is. It may be sown at any time from April to August, and then covered over with a light harrow. But August is in general the



best time, as it will not require to be weeded so often, and will cover the ground like a carpet by Christmas, and be early for pasture the next spring; besides, its growth is more uncertain when sown in the spring. It preserves its verdure all the winter, continuing to grow (though slowly) without receiving any injury from frost or snow, however severe. There is a wild burnet, which does not live through the winter, which some have mistaken for this plant. Great care must be taken to keep it free from weeds the first year; the second year it will be so luxuriant and bushy, as to keep itself free from weeds, by choking them.

Its cultivation is neither hazardous nor expensive; it grows fast even in dry weather, and will certainly perfect its seed twice in one summer, and commonly lasts six years.

From various trials it appears, that burnet may be sown with spring corn, without any injury to the crop, and is thereby kept much freer from weeds; hence it opens a very profitable method of procuring a quantity of excellent winter food for sheep or neat cattle; and there is perhaps no grass cultivated which conduces more to preserve sheep from the rot, or to cure them when just tainted, than burnet; of which we could give well-attested proofs.

The most proper time to cut it for hay, is as soon as the plant is in bloom; for the stalks, when it stands for seed, become dry, hard, and sticky, and of course the hay must be but indifferent, when compared with that which is made while the stalk is tender and juicy.

Burnet is very wholesome and nourishing for horses, sheep, cows and pigs, and affords both corn and hay, the seeds being little, if at all inferior to some of the Welsh oats. It makes good butter, and never blows or hoves cattle. It will flourish on light, stony, gravelly, flinty, or chalky soils. It may likewise be transplanted like lucerne, and will grow fast after transplantation, even if the weather should prove to be dry.

When it is thought proper to feed it, we would earnestly recommend the Farmer to hurdle it off, or to turn in a large stock to eat it off in a short time; otherwise the sheep or cattle will feed on the young and tender shoots, and do great injury to the crop by trampling on it; this hint should be adopted in all similar cases, for the grass will shoot again much sooner by being fed off quick and close.

It must not however be dissembled, that in some places both horses, cattle, and sheep absolutely refuse to touch burnet, and will sooner starve than eat it; while in others, they will eat it very greedily. It may therefore be proper to intimate,  
that

that an experiment should be tried upon a small plot of land before the Farmer engages too far in its cultivation. This extreme fondness or dislike in cattle, is hitherto unaccounted for; but is generally supposed to be owing to the plants imbibing a disagreeable taint from the soil in which it grows.

Though it may be presumed in general, that animals, by instinct, chuse those plants which are salutary, and reject the hurtful ones, yet experience sufficiently shews, that this rule is not invariable, nor is instinct always infallible, among domestic animals at least; which having but little freedom of choice in their food, have their taste in all probability depraved as much as that of the human species. Every Farmer knows that some cows will not at first touch turnips, and that many take to them with reluctance,; and yet it is equally well known, that there is scarcely any kind of green food more nourishing, or more palatable, to both sheep and cattle, after they have been once accustomed to eat them.

On the other hand, their freely eating plants which are at first offered them, does not in every instance afford a certain proof of the plant's being either wholesome or even innocent. Linnæus observes, that animals which have been used to feed in the open fields, are commonly hurt when put into woodlands, by eating plants that are pernicious, which the cattle that were bred in them have learned by experience to avoid. Here then it is experience and not instinct that guards from danger.

The Swedish naturalists, by a numerous set of experiments, have endeavoured to discover what plants are eaten or rejected by horses, oxen, sheep, goats, and swine. A laudable example! How much is it to be regretted, that this nation, which gives the most liberal encouragement to almost every other kind of improvement, should never once have thought of applying a small proportion of the public money (and a small proportion would suffice) towards the prosecution of such national experiments in agriculture, as exceed the power of any individual to perform. [See Essays on Agriculture, Part II.]

### ARTICLE III.

#### *The natural history and cultivation of SHEEP'S FESCUE.*

[To illustrate the plate in the Farmer's Magazine No. VI.]

**S**HEEP'S Fescue [*Festuca Ovina*] is the first species in Hudson's *Flora Anglica*. In the modern, or Linnæan system, it is called *Festuca panicula secunda coarctica*, culmo

Qq 2

tetragono



tetragono nudiusculo, foliis setaceis. Fl. Suec. 91.—Sp. pl. 73. This grass is the most esteemed in Sweden for sheep; it is perennial and flowers in June and July. It is found in the finest dry sheep pastures in great plenty, in many parts of England and Wales; but seldom grows till its seeds are ripe in open pastures where sheep commonly feed, on account of their being so fond of it. Its seeds ripening so early has disappointed many in their search for it, who were not acquainted with this circumstance.

Mr. Stillingfleet observes, contrary to what Linnæus says, that either sheep or some other animals do eat the flowering-stems of this grass; for when he searched for it upon Banstead Downs, he could see no part of it but the radical leaves, except among bushes near the hedges, where it was guarded from the sheep.

It has been remarked, that during the summer, the Tartars chuse to fix in those places where is the greatest plenty of this grass, because it affords a most wholesome nourishment to all kinds of cattle, but chiefly sheep; and that the sepulchral monument of the ancient Tartars are mostly found in places which abound with this grass, which shews that it has long been valued among them.

Very little has been said about this valuable grass by our English writers; its cultivation having been totally disregarded; it is not mentioned, (or at least we have not found it mentioned) in Miller's Dictionary; we must therefore have recourse to Essays on agriculture, [Part II. p. 232, 242, 399.]

This judicious and sensible essayist having taken some notice of this kind of native grass [see Farmer's Magazine, p. 218.] adds, that it has a just claim to a more particular share of the Farmer's attention, than it has ever yet obtained among us, being much praised by the Swedish naturalists for its singular value as a pasture for sheep; this animal being represented as fonder of it than of any other grass, and fattening upon it more quickly than upon any other kind of food whatever. And indeed the general appearance of the plant and its peculiar manner of growth, seem very much to favour the account which they have given us of it.

On sowing the seeds of this plant I found that they spring up as quickly as any other kind of grass; but the leaves are at first no bigger than horse hairs. From each seed springs up one or two of those hair-like filaments, which in a short time send out new offsetts, so as quickly to form a sort of tuft, which grows larger and larger till it forms the closest pile  
of

of grass possible, resembling a close hair brush more than any thing I know. In April and May it pushed forth an innumerable quantity of flower stalks, that afforded an immense quantity of hay, (in proportion to the spot of land) it being so close throughout that the scythe could scarcely cut it. This was allowed to stand till the seeds ripened; but the bottom of the stalks were quite blanched, and almost rotted for want of air. The flower stalks are usually about twelve or fifteen inches high, but sometimes attain the height of two feet.

I have reason to think, that after a few years, it produces fewer seed-stalks, and a greater quantity of leaves than at first. But however that may be, it is certain, that if these are eaten down in the spring, it does not, like rye-grass, persist in a continued tendency to run to seed, but is at once determined to push forth an abundance of leaves without almost any stalks at all; and as all domestic animals, but more especially sheep, are extremely fond of this grass, they bite it so close as not to suffer a single seed-stalk scarcely to escape them; so that the botanist will often search in vain, when he is treading it under his feet. The best time to discover it in any pasture is to search for it in winter, when the tufts may be easily distinguished from every other kind of grass, by their extraordinary closeness, and the deep green colour of their leaves.

It seems to grow in almost any soil, although it is imagined that it would flourish best in a light sandy soil, as it can evidently live with less moisture than almost any other kind of grass; being often seen to remain in the sods or turfs that have been employed for coping stone walls, after all the other grasses that grew in them have disappeared.\* It is likewise frequently found on poor barren soils where hardly any other plant can be made to grow at all; and on the surface of dry worn-out peat moss, where no moisture remains sufficient to support any other plant whatever: but in neither of these situations does it thrive, as it is there only a weak and unfightly plant, very unlike what it is when it has the good fortune to be established upon a good soil, although it is seldom met with in this last than in the former.

From this last circumstance it appears, that those who imagine a plant is always found naturally on that soil in which it most delights, and where it will grow to the utmost perfection, may be very often deceived, as some particular circumstances may prevent its flourishing, or even growing in the most favourable soils, while it may yet grow and be established  
in



in soils that are much less favourable. This I am satisfied is exactly the case with regard to this plant; for as its first shoots are extremely weak, it is then easily overpowered by almost every other kind of plant, and may therefore be easily smothered in a good soil by the stronger grasses, or at least be kept in a puny state; but should the seeds be scattered on a poor soil where scarcely any other grass grows, it may then take root and thrive, as being free from any obstruction.

As therefore it is so difficult to meet with a good rich soil in such circumstances as to permit this plant naturally to establish itself, and as we have very great reason to imagine that this is a very valuable grass, we have the clearest proof that could be wished for, of the impossibility of obtaining on all occasions the finest pasture, by allowing nature to operate without any assistance. Heaven has endowed man with reason, that by the exercise thereof he may promote his own felicity; and hath subjected many of those objects that may minister to his wants, to particular natural inconveniencies, which is in his power to remove, and thus render them more eminently useful to him. For instance, if the seeds of this plant are sowed on a rich proper soil, the field will soon be covered so as to exclude other plants; by which means a full crop may be obtained in soils where nature could hardly ever have established it.

This valuable plant will grow upon such soils as hardly any other kind of grass could live upon; and though the Farmer will not expect a crop nearly equal to what would grow upon his richer lands; yet it is no small convenience for him to have a plant with which he can at once cover his most barren spots, which, without this care, might have remained without herbage for many years.

I will not repeat what I have said about this plant continuing green all the winter, nor point out the benefits which the Farmer may reap from this valuable quality. I have been very particular with regard to this plant, because as far as my observations extend, it promises on many accounts, to be a most valuable acquisition to the Farmer, and therefore justly demands a very particular share of his attention.

*[The natural history and cultivation of Madder in our next.]*

#### ARTICLE IV.

##### *A Receipt for a Cough or Cold in Sheep.*

S I R,

**I** Now send you a receipt for coughs or colds, to which sheep at certain seasons are so much subject.

Take

Take of fena two ounces; choice rhubarb, sweet fennel-seeds, juniper-berries, guaicum shavings, each one ounce; French brandy, three pints.—Digest for the space of four days; then strain off the tincture, and add to it four ounces of powdered sugar candy.

One spoonful of this tincture given in a little warm ale in the morning, is an admirable remedy. Something like this is Daffy's Elixir, which is much approved of for the same purpose; but as most people wish to prepare their own medicines, rather than trust to those prepared by other people, I was willing to give you a receipt that is equal to any and superior to most that have been offered to the public.

*Bath, Nov. 5, 1776.*

VARRO.

ARTICLE V.

*The Ant Powder, so much used in Germany to preserve Sheep from the Rot in rainy seasons.*

S I R,

PROVIDENCE frequently points out to us very simple remedies which are as efficacious in many disorders, as the most elaborate and expensive ones. The justness of this remark is confirmed by the happy effects obtained by the celebrated ant-powder, which is greatly extolled in Germany as a preservative from those disorders that are occasioned by continual rainy weather.

When the ants have done working, which is generally in autumn, take one of the hills, ants and all, scooping it out quite to the bottom, and dry it in an oven till both the ants and earth may be crumbled to powder between the fingers: let it then be powdered and sifted very fine, and kept dry for use. A quarter of a pound of this powder mixed with half a pint of oats, and sprinkled with powdered salt, salt-water, or human urine, should be given to a sheep once a week in very wet seasons.

*Bath, Nov. 15, 1776.*

VARRO.

[Bishop Pontoppidan, in his history of Norway, remarks, that Bears retire to their dens soon after Michaelmas, where they remain all the winter without any food; and that when they go out in the spring, their stomachs are sick and drawn up by such long fasting. Here instinct or rather Providence, directs the Bear to a cure, which is, by swallowing an ant-hillock, which scours his inside, and cleanses and strengthens his stomach. It is at least possible, that this furnished the hint for the *Ant-Powder*.]

ARTICLE





## ARTICLE VI.

*A Drink for a Horse which has the Grease.*

Mr. SYLVAN,

**A**Mong the many receipts which you have published in the *Farmer's Magazine*, I see none for the disorders in that useful animal the horse. You have been kind enough to accept add publish those receipts which I have already sent you, which encourages me to present you with one for horses when they have got that troublesome, but common disorder, the grease.

Take two quarts of beef brine, and boil it till it comes to one quart; then add four ounces of powdered rosin, and three ounces of spirits of turpentine. Let the horse fast twelve hours and then give him this drink; he must now fast twelve hours more, when you must give him a little warm water and a mash of malt. This may be repeated in four or five days, if necessary, and the good effects will soon be seen. It will be of great service when horses have got any bad humours in the blood. The horse commonly stales much after it, and his urine sometimes smells very strong. I can assure you from experience, this drink is a very good one.

Nov. 16, 1776.

*A West Country Farmer.*

## ARTICLE VII.

*A Receipt for the Jaundice.*

Mr. SYLVAN,

**T**HE following receipt for the jaundice was made public by the late Lord Blakeney. Having seen it exhibited with success, I think it ought to be preserved in your *Magazine*, which I constantly read.

Nov. 12th, 1776.

CLERICUS.

Take the white of an egg and two glasses of spring water, beat them all together, and drink the whole off at a draught: repeat it occasionally.

## ARTICLE VIII.

*A simple method of knowing whether a person who has the Stone has an Ulcer in his Bladder.—From Bromfield's Surgery.*

Mr. SYLVAN,

**T**HE work from which I have extracted the following simple decisive experiment, being held in the highest estimation, nothing farther is necessary to recommend it as an article for a *Useful family companion*.

Nov. 18th, 1776.

STAFFORDIENSIS.

Put

Put a little of the sediment at the bottom of the chamber-pot into a large glass, and pour some clear pump water into it. If there is any matter, the water will become milky; but if there is [the natural] mucus only, it will fluctuate in the water, without discolouring it, or however but little.

#### ARTICLE IX.

*A curious anatomical comparison of a good Horse.*

A Horse, to be a good one, ought to have three parts of a woman, a wide chest, plump buttock, and long hair; three of the lion, the stateliness, the boldness, and the fire; three of the bull, the eye, the nostril, and the joint; three of the sheep, the nose, the mildness, and the patience; three of the mule, the strength, the perseverance in labour, and the foot; three of the stag, the head, the leg, and the short hair; three of the wolf, the breast, the neck, and the hearing; three of the fox, the ear, the tail, and the trot; three of the snake, the memory, the sight, and the moulding; and three of the hare or cat, the running, the sleep, and the suppleness.

#### ARTICLE X.

*Of Distilled Spirits, with some choice Receipts.—Continued.*

WE shall now treat of spirits impregnated with the volatile oils of vegetables, which have joined to those, the aromatic, cordial, or other virtues, which reside in the oils.

##### HUNGARY WATER. *Aqua Regina Hungaria.*

Take of rosemary-flowers, just gathered, two pounds; rectified spirit of wine, two quarts; put them together, and immediately distil in a water-bath.

This spirit is very fragrant, insomuch as to be in common use as a perfume. It is difficult to make it in the requisite perfection; the vinous spirit should be extremely pure; the rosemary tops gathered when the flowers are full blown upon them, and committed immediately to distillation, particular care being taken not to bruise or press them. The best method of managing the process therefore seems to be, to first place the spirit in the still, and then set in above the liquor an iron hoop with an hair-cloth stretched over it; upon this lightly lay the flowers, and apply a gentle heat just sufficient to raise



the spirit. Probably the superiority of the French Hungary-water to that prepared among us, is owing to some skilful management of this kind, and employing a perfectly pure spirit.

In the Wirtemberg Pharmacopœia, some sage and ginger are added, in the proportion of half a pound of the former, and two ounces of the latter, to four pounds of the rosemary.

*Simple Spirit of Lavender.—Spiritus Lavendulae Simplex.*

Take of Lavender flowers, fresh gathered, a pound and a half; proof spirit, one gallon. Draw off by the heat of a balneum, five pints.

The same cautions are to be observed here, as in the distillation of the foregoing spirit. Both of them when made in perfection, are very grateful and fragrant; they are frequently rubbed on the temples, &c. under the notion of refreshing and comforting the nerves; and likewise taken internally, to the quantity of a tea-spoon-ful, as a cordial.

*Compound Spirit of Lavender.—Spiritus Lavendulae Compositus.*

Take of simple spirit of lavender, three pints; spirit of rosemary, one pint; cinnamon, nutmegs, each half an ounce; red Saunders, three drams. Digest them together; and then strain out the spirit for use.

The digestion should be performed without heat, and not too long continued; otherwise the flavour of the spirit will be considerably injured.

This is a grateful reviving cordial, and has long been held in great esteem under the name of PALSY DROPS, in all kinds of languors, weakness of the nerves, and decays of age. It may be conveniently taken upon sugar from ten to eighty or an hundred drops.

*Spirit of Scurvy-grass.—Spiritus Cochlearia.*

Take of scurvy-grass, ten pounds; rectified spirit of wine, five pints. Let the herb, fresh gathered and bruised, be steeped in the spirit for twelve hours; then with the heat of a water-bath distill off five pints.

This spirit is very strong of the scurvy-grass, and may be given in those cases where the use of this herb is proper, from twenty to one hundred drops. The spirit newly distilled, is extremely pungent, but if long kept, even in close vessels, becomes remarkably less so. The makers of this spirit frequently add horse radish root, and sometimes substitute it entirely for scurvy-grass.

Golden

*Golden, or Purging Spirit of Scurvy-grass.—Spiritus Cochleariæ Aureus.*

Take of spirit of scurvy-grass, one pint; gamboge, one ounce. Dissolve the gamboge in the spirit, and if any sediment falls to the bottom, carefully decant the tinged liquor from it. This spirit is otherwise made with scammony, or resin of jalap instead of gamboge.

This has been in great esteem among the common people, and strongly recommended by the venders in all kinds of scorbutic disorders. It is nevertheless a very indifferent medicine, and little deserves the pompous title given it. It may be taken from twenty to sixty drops, either upon sugar or mixed with syrup.

*Anhalt Water.—Aqua Anhaltina.*

Take of turpentine, six ounces; olibanum, one ounce; aloes wood, three ounces; cloves, cinnamon, cubebs, rosemary-flowers, galangal, mastich, nutmegs, each six drams; saffron, two drams and a half; bay-berries, fennel-seed, each half an ounce; spirit of wine, five pints. Pulverize those ingredients which require such treatment, and digest the whole with the spirit for six days; then distil with an exceeding gentle heat in balneo mariæ; the liquor which runs clear, is to be separated from the turbid, and kept by itself. Where the addition of musk is required, fifteen grains thereof are to be tied in a bag, and suspended in the head of the still.

We have inserted this composition from the Brandenburg Pharmacopœia, on account of its being held in some places in great esteem. It is rubbed on weak or paralytick limbs, against catarrhs, old pains, and aches, &c. and likewise given internally in doses of half an ounce, for strengthening the stomach, discussing flatulences, relieving colicky pains, and promoting the uterine purgations. It is very unpleasant to the palate; the aromatics, though sufficiently numerous, and in considerable quantity, not giving over near enough to cover the strong flavour of the turpentine; there are not many of them, indeed, that give over any thing at all.

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ARTICLE XI.

*The best method of bringing the Tea-plant from China to England.*

THE seeds, which may be procured in plenty from the tea country, should be sown in tubs or pots, about the time of the departure of our East-India ships from Canton. These



must be well secured by a wire covering to keep them from the rats, which will otherwise destroy those plants as soon as as they come out of the ground. Some of the seeds should be preserved in bees-wax, (melted with a gentle heat) in order to be sown at different times in the voyage, and likewise to be brought home. The earth should be stirred near the edges to prevent any mouldiness; and to prevent the saline vapour from being too much absorbed by the earth, a slight covering of moss or chaff may now and then be repeated. This covering will likewise prevent the earth growing too dry on the surface, and save the growing fibres from the burning heat of the sun's rays in those hot climates: when the plants appear, they must be kept as far as possible from the spray of the sea in rough weather.

When the seeds are to be inclosed in wax, they must first be very carefully wiped quite clean and dry, for the least dirt or damp will turn to mouldiness and rot them; and after each seed is carefully wrapped up in a coat of soft bees-wax, they should be put into small wooden boxes, wherein there has been poured some melted wax, just at the time that the wax is cool enough to bear one's finger in it, and is still fluid; when they are thus covered with wax, all cracks which proceed from the shrinking of the wax, must be stopped quite close with very soft wax. The cover of the box then may be put on and kept in an airy cool place.

The best soil for the seed is a fresh soapy crumbling loam, such as the under turf of earth of many of our commons in England. They must have but a moderate share of water during the voyage, just so much as will keep the earth from being hard and binding; the covering the tubs with moss will greatly prevent this. If by accident the tops of the young plants should be broken off, the roots should not be thrown away, as they may shoot again.

The celebrated Linnæus has now some tea trees which were brought over in the year 1763 by Capt. Ekenberg, the commander of a Swedish East-Indiaman. The Captain sowed them in good earth just upon his departure; and took care to keep them as much as possible from the saline vapour of the sea; they are now in a fine thriving state in the physic garden at Upsal.

By pursuing this method, we may bring seeds or plants in a vegetating state to England, from the remotest part of the world.

[For the natural history of the tea plant, and the method of curing green and bohea tea, see the Farmer's Magazine No. II.]

ARTICLE

## ARTICLE XII.

*Dissertation on Manures.* By COLUMELLA, *Continued.*

THERE is scarcely any poin in common husbandry in which both writers and practical Farmers are so much divided in their opinions, as about the best and most proper time for watering land. Some contend for beginning to throw the water over the land in autumn, others in the spring, and on no account before the warm weather commences. Each appeals to his own experience, for raising the best crop and the sweetest grass. One would suppose it would not be difficult to ascertain this. I have found many ensible Farmers obstinately retaining their own opinion, and condemning those who direct a different time for bringing on the water, who have yet changed their sentiments on *seeing* some happy effects to which they were before strangers, by managing their water meadows in a different manner. Let us hear what the celebrated Mr. Miller says on this head :

“The time for drowning land, (says he) is usually from November to the end of April; but though this is the general practice, yet I cannot approve of it for many reasons. The first is that by the wet lying continually on the ground in winter, the roots of the finer sorts of grass are rotted and destroyed; and by letting on the of water, at the seasons when the seeds of docks, and other bad weeds, which commonly grow by river sides, are falling, these seeds are carried upon the land, where they remain and grow, and fill the ground with bad weeds, which is commonly the case with most of the water meadows in England, the grass in general being destroyed; so that the rushes, docks, and other trumpery make up the burden of these lands; but if these meadows were judiciously managed, and never floated till March or April, the quantity of sweet good grass would be thereby greatly increased, and the beautiful verdure of the meadows preserved.”

These sentiments are defended by many writers, upon the principle of water starving the land in winter, and being beneficial only in a warm spring or summer.

With proper deference to Mr. Miller's judgment, as a gardener and a botanist, I always considered him as a very indifferent Farmer. If he had ever been in Dorsetshire or the southern parts of Wiltshire, and had taken notice of their water meadows, he must have been convinced of his mistake. He would not have seen the ground full of bad weeds, nor the burden made up with rushes, docks, and other trumpery.

Whoever



Whoever thought that the Dorsetshire ewes and lambs were kept with *weeds*? and yet in no part of the kingdom is the water brought earlier upon the land or continued later than in the two counties I have mentioned.

On the other hand, I have known many (otherwise) good Farmers, who could not on any account be persuaded to water their land after the warm weather commenced, and the grass began to spring. Here therefore both opinions and practice founded on experience, seem to be totally repugnant and contradictory to each other. It is however very possible to effect a reconciliation, and as I write from experience, and have seen all the different methods, and have heard the various arguments adduced in support of each, I hope I may be allowed to speak with some little degree of confidence.

In short, the great diversity of opinions and practice arise from being acquainted with that method of watering land only which has been usually practised in the country where the Farmer resides. It is therefore talking to no purpose to barely propose another; he must see, he must experience a better method, and happier effects, before he changes one system or practice for another; and indeed who can blame a Farmer for this seeming obstinacy, when he considers how much may be lost, and how soon a man may be ruined by listening to schemers and attending to their vain and ridiculously absurd experiments, in order to acquire a speedy fortune. I shall now endeavour to treat distinctly of the various methods.

In many places the only method known, or at least practised, is by bringing on a very large quantity of water in the latter end of autumn, and penning or pounding it upon the land as deep as possible till spring, when, as soon as the weather is sufficiently warm, it is let off. This is supposed to deposit a quantity of mud, which answers the end of manure, and the grass being thus screened from cutting winds and frost, springs very fast in warm weather.—It is obvious at first sight, that a person unacquainted with the other modes of watering land, will pay no regard to that advice which recommends drowning his meadows in April or May, for was he to follow such advice, or continue the water on till May, it is indisputably evident, that he would have little or no grass at all. This produces a tolerable crop of hay, provided the ground is naturally dry and warm; but it is often difficult to draw off all the water; and whenever it stagnates, the rushes and other aquatic plants immediately grow; besides the spring grass is lost, and the hay will often be coarse by the water remaining so long upon the land.

Others

Others throw on a very large stream of water, which runs rather quick, being of opinion, that a quick running water is the life of water meadows; it is let into the meadows in autumn and continued with little intermission till spring, when they take it off as soon as the weather begins to be warm. This differs from the former only in having a few carriages to convey the water more regularly, and in the water running over, instead of standing upon the grass. But as the meadow is in both cases flooded, no grass can grow till the water is taken off.

I shall say but little more in answer to Mr. Miller's notion. He seems to think, that the running water is continued all winter, without intermission, upon the meadow, which he alludes to; this would infallibly produce docks, rushes, &c. and if the land was at all wet or inclined to be poachy, nothing would sooner ruin it, by converting it into a marsh. But if we delay the watering till warm weather, all the benefit of the spring seed would be totally lost. It is well known, that in the two counties which I have mentioned, the grass in the water meadows is several inches high in the beginning of February, which is not to be expected by any of the other methods; and the watering is continued by intervals till near hay harvest.

I am aware of the common objections "*the water is warmer than our's*:"---"*the soil is richer and better*:"---"*our water is too cold, it would starve the grass, was it to be thrown over in warm weather*." I must confess I know not what people mean by cold water, or by spring water being too thin or too cold for land, for I have never *seen* or *known* an instance of it (mineral water excepted) though I have heard it perhaps five hundred times. The small rivulets which trickle from springs enrich the land on their edges, but no grass can possibly grow in the water where it constantly runs, and covers the ground whatever the quality of the water may be.

No much less absurd is Mr. Miller's notion of the hay cut from water meadows; but as he seems to have known but little of the true principle on which watering land in its utmost perfection depends, he may the more readily be pardoned. Nothing scarcely is more common than to hear people exclaim against the coarseness, the badness, and the little nourishment there is in hay cut from water meadows. This may in part have some foundation; the meadows may be naturally wet, and produce coarse sour herbage, and the water may be improperly managed; which will occasion all the evils complained of. I should now proceed to shew how the  
water



water may be managed so as to produce a large crop of coarse hay where *quantity* only is considered, and likewise how a swarth of fine hay may be obtained, where the Farmer's attention is more particularly directed to the *quality*, which I intend for the subject of my next letter.

## COLUMELLA.

[On reading the preceding letter, we recollect a method of manuring arable land in Germany, (if we mistake not) which is by flooding it, and, by means of banks, keeping the land under water for a few years, while they till the other part of their farms. When these other parts are exhausted, they are covered with water in like manner, receiving no other manure. This can only answer where the land is very cheap, and water may be commanded.]

## ARTICLE XIII.

*On Pulverigation and Ploughing Land too often.*

Mr. SYLVAN,

ON dipping into a book\* which you lately criticised somewhat severely, I met with the following remarks:—"Dr. Alston tells us, that the most barren earth when ground and finely pulverized, affords as much nourishment to plants as the richest earths." Again; "Dr. Fordyce in his Elements of Agriculture, says the land may be ploughed too often (a thing which I think very seldom happens) but his reasoning is certainly just. For when the soil is well pulverized, and no more weeds will vegetate, to continue to plough it then is only to expose it to the sun and wind, which will exhale its saponaceous substance, which is the true vegetable food; therefore when the soil is well broken and divided, and the weeds destroyed, then is the right time for cropping the land."

I should be glad of the opinion of some of your correspondents on the above, which are certainly of some consequence to Farmers, because good and proper ploughing has been always reckoned one of the best parts of good husbandry.

## A YOUNG FARMER.

[The Old Farmer has touched a little upon this subject in the Sixth Number of our Magazine; we wish he would treat it more at large in answer to the *Young Farmer*.]

## ARTICLE XIV.

*On the best method of raising White Thorn, commonly called Haw-Thorn plants for Hedges.*

HAVING promised in our review of books, some practical observations on Mr. Boutcher's method of planting quicksetts for hedges, which is in part adopted by the ingenious author

\* RURAL IMPROVEMENTS.

author of *Essays on Agriculture*, we think it necessary to preface the observation with the excellent rules laid down by Mr. Boucher, for raising the white thorn plants from seed.

The berries, which are most commonly gathered too soon, should remain on the trees till the end of October, till they become of a blackish colour, and their flesh begins to decay. They are usually kept in sacks after gathering, and buried in heaps on the gardener's receiving them: But this is a material blunder, as, from the thick pulp in which the berries are inclosed, they become extremely hot; whence some of the ripest kernels, not yet hardened, vegetate, and of course perish. Many crops have I known fail from this ignorant practice, when the owners could assign no cause for their loss. Let your haws then, as soon as gathered, be spread on an airy floor for five or six weeks, till the seeds are dry and firm; from this plunge them into tubs of water, and divest them totally of their pulp, by rubbing them between your hands with a little sand; which being done, spread them again on the loft three or four days, till quite dry, and mix them thoroughly with fine loose sandy mould, in quantity not less than the bulk of the seeds, and lay them in a heap against a south wall, covering them over three or four inches deep, with soil of the same quality as that with which they are mixed; and in this situation let them continue till the second spring, as the seeds, though sown, will not appear the first year.

In order that the berries may be as equally mixed with the soil as possible, it will be necessary to turn over the heaps once in two months, blending the covering with the berries, and, at every turning, give them a fresh covering in the winter months. For want of this precaution, in not mixing the seeds properly, and divesting them of their pulp, we universally see, that seldom one half of the seeds appear the season of sowing them, but continue in the ground, though fresh and sound, another year; and then, if the former year's plants are not all raised, which is rarely done, the remainder, by coming up under their shade, are starved and good for nothing. But I shall now proceed to such a practice (having attended to what has been said) as will obviate these unlucky circumstances.

The berries of the thorn begin to vegetate with the earliest plants, and, in the natural season of their growth, will spring, if kept in any considerable quantity together, without the assistance of earth; whence it becomes indispensably necessary, to be prepared, the first dry weather in February, to sow them.



them. This being come, separate the berries from the loose soil in which they were mixed, with a wire sieve, without which it will be impossible to sow them in an equal manner. The ground ought to be of a good natural quality, dry, and not lately acquainted with dung, which, unrotted, has very malignant effects on many plants, and on none more than the Thorn; but good fresh land being well prepared, divide it in beds three feet and a half broad, with alleys of eighteen inches between them; push over a little of the surface of the beds to the alleys, as is practised for small kitchen garden-seeds; sow them with great care, so that they may not rise in clusters, and that the plants, as near as can possibly be computed, be not closer than an inch to each other; let the seeds be soundly clapped into the earth with the back of a spade, draw the soil back again you had pushed off, and add to that covering, from the alleys, to the depth of half an inch only; for no plant is more delicate, when rising, than the Thorn, or more readily smothered by too deep a covering.

Thus managed, the Thorns will all appear the season of sowing, which is properly saving one half of their berries, and procuring an equal crop of strong plants.

The succeeding spring, draw out all the largest plants where too thick; shorten their roots, cut off so much of their tops as to leave them about two inches above ground when planted, and lay them (but beware of dibbling) in lines a foot asunder and four inches distant in the line, to remain two years.

At the same time, I have directed Thorns to be sown on beds in the common way, though much thinner. Sensible that I shall not prevail on many gardeners at once to relinquish these prejudices that custom has confirmed, yet some I have the happiness to know of more liberal sentiments, and who want no more than a reasonable hint to try any experiment that has a seeming tendency to promote, by a better culture, the growth of our hedges and forest-trees: to these, therefore, and to such as are not straitened for ground, I, from the most solid foundation, advise the following practice:

Sow the berries thin, or rather drop them in drills, made either with your fingers, or with a very small hoe, at eight inches asunder the first two drills, and double that distance between them and every following two, being careful they are no deeper covered than directed for those in beds; let the ground be kept very clean and mellow about them till the succeeding spring, and draw them, where too thick, as formerly; after which, cut the remainder with a spade, about  
five

five or six inches below ground, and let them remain another year, having pointed over the ground between the lines.

That this practice is no vague opinion, but much preferable to crowding them in beds, carries the clearest demonstrations along with it, to every man of the least attention, who does not chuse to shut his eyes, and who will only look at these plants on the edges of beds next the alleys, where he will universally find them of double the size, and more abundant in roots than in the middle of the beds.

Notwithstanding the preceding directions, both for preparing and sowing the berries, are the best rules I know to procure strong well-grown plants, yet, when numbers only are desired, without regard to saving time, or their future quality, many more may be procured with less trouble and expence, by sowing their seeds immediately after being ripe, or the following spring, of which the latter is the best season, as, from that time, the surface of the ground will be but one winter battered with the storms, in place of two. These seeds may be covered at sowing, double the depth of those that are to appear the first season. In autumn, rake from the beds all mossy corrupted particles, and in the following spring, before the vegetation is brisk, reduce the covering with a short-tooth'd rake to half an inch. From this practice, all the sound seeds will appear at once; but the plants will not be one-fourth part of the size, or have near so good roots as those whose berries have been preserved as directed, and sown on fresh loose soil, where they are to appear that season. From the small size of these plants, it will be necessary they remain in the seed-bed two years.

Thorns may also be propagated to much advantage, and two years time saved, by cuttings from their roots. For this purpose, at removing a nursery of these plants, cut off all unnecessary roots that are straight and clean, of one, but not more than two years growth; let them not exceed the length of four or five inches, and, either early in October, or February, lay them in drills cut out with the spade, with their tops a quarter of an inch below the surface; let these drills be a foot asunder, and lay the roots in them three or four inches separate, as not a single fresh and sound root will fail that has been planted with care and attention. If the land has been well prepared, of a good quality, and kept clean and mellow, the plants will be from eight inches to a foot high the first season; and the following spring, having pointed over the ground between the lines, they ought to be cut



with hedge shears, within two or three inches of the surface, when, by continuing a proper culture during the ensuing summer months, they will in general be eighteen inches high, and most abundantly rooted at two years old.

I am very far from meaning to divert any one's attention from following the justly established principles of raising plants in general from their seeds, fully sensible of its preference to all other practices in most cases; but as there are few rules without some exceptions, this appears to me one; the saving of time has been observed: to which I shall add, that these plants, in place of one strong perpendicular shoot, (which is commonly the case of young vigorous seedlings), push out a number of shoots very much equal in strength, and continue to grow in that manner, without a few branches running away with the juices that ought to nourish many in much the same proportion; whence, from experience, I must affirm, that for the most equal, close, and impenetrable hedges, plants raised from young and tender roots are the best; but for single trees, meant to grow in the most comely form, and aspire to the greatest altitude, those propagated from seeds are no less preferable.

#### ARTICLE XV.

*The method of obtaining forward Figs, as practised in Italy.*

THE fig-tree, which they have in great plenty, especially about Naples, bears figs at two distant seasons of the year; at the usual time, the latter end of August or September; and likewise in May, thence called from the season, *Fico di Pascha*. At Casa, near Naples, which place is celebrated for its figs, they cover their trees with mats all the winter, by which means the small figs, which remain green on the tree in the autumn, are preserved, and ripen in the spring, as soon as the trees begin to shoot, and produce those forward figs.

The intelligent fruit-gardener will be at no loss to know how to apply this hint

#### ARTICLE XVI.

*To discharge the stains of Port Wine from light-coloured, or Linen Cloth.*

Mr. SYLVAN,

IN answer to your correspondent's query relative to discharging the stains of red wine.—Let him dissolve a good deal of common salt in water till the brine is very strong, and then  
boil

boil it ; the linen is to be dipped in the hot brine and left to soak a few minutes, when the stains may easily be washed out.

For light-coloured woollen cloth, let the stains be first well moistened with the hot brine, and repeated if necessary ; if the cloth be then rubbed, the stains will be discharged. If a little lemon-juice, or good vinegar, be added to the brine in the latter case it will be of service.

Common salt, moistened with vinegar, will discharge iron-moulds, without injury to linen, lace, &c. The salt thus moistened, must be applied to the iron-mould pretty freely, and then the cloth, &c. must be wrapped up and left all night ; the next day the iron-mould will wash out.

LUCINDA.

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ARTICLE XVII.

*Useful forms in Conveyancing, &c. for men of Business.*

IN our *Second Number*, in answer to a correspondent from Gloucester, we promised some good forms for articles of agreement, bonds, &c. and in order to make this article more extensively useful, more especially for Farmers' Sons, we shall, by way of introduction, make some remarks on the nature of Receipts ; Promissory Notes, called Notes of Hand ; and Bills of Exchange, commonly called Drafts ; to which we shall subjoin the necessary examples.

*Of Receipts.*

A Receipt is given as an acquittance or discharge from a debt. This may be in part, or in full ; and, on one's own account, or on that of another. If a Partner gives the Receipt, he should say, *for self and Partner, or Partners, or Co.* as the case may be ; so if a Son, Daughter, or Servant, writes the Receipt, the addition should be, *for my Father, Mother, Master, or Mistress.* It has been generally said, that a person is not obliged to *write* a receipt, at least without being paid for it ; but he can have no good objection to *sign* one that is ready written ; the best way therefore will be to tender a receipt with the money paid, where such nicety or preciseness is expected, which however in trade is certainly not the case.

*Of Receipts to Bills of Parcels.*

N. B. Bills of parcels are commonly given or sent with the goods, and contain the particulars. If the money is paid immediately, the receipt may run thus :

Received



Received at the same time the contents; or, the full contents; or, simply, Received, A. SYLVAN.

If the person owes nothing else, you may say,

Received at the same time the contents in full; or, in full of all demands. A. S.

If only part of the bill is paid, say,

Received at the same time [*expressing the sum in words at length*] on account, or, in part of the above bill. A. S.

If the receipt is given on the bill some time after, you must put the date to it; and indeed it is a very material thing that every transaction in business should be carefully dated:—the form then will run thus:

Received November 20th, 1776, the contents; or, the full contents; or, in full of all demands. A. S.

*Receipts for money on separate pieces of paper.*

The general directions before given, should be observed, always taking care to write the sum in words at length, expressing the same in figures on the left hand of the receipt, as in the following examples:

Received November 20th, 1776, of Mr. Thomas Rowe, Ten Pounds, on account. A. S.

£ 10.

Received November 20th, 1776, of Mr. Thomas Rowe, ten pounds four shillings and sixpence, in full of all demands.

£ 10 4 6

A. S.

Received November 20th, 1776, of Mr. Thomas Rowe, ten pounds, for self and Co. or, for my master; or, mistress; or, father; or, mother, (as the case may be) in full, [or on account.] A. S.

£ 10.

Received Nov. 20th, 1776, of Mr. Thomas Rowe, fifteen pounds and six shillings, for half a year's rent, (or for an half year's rent) due Michaelmas last. A. S.

£ 15 6 0.

Received November 20th, 1776, of the Right Hon. the Earl of B. by the hands of Mr. Thomas Rowe, forty pounds fourteen shillings and six-pence, in full (or on account).

£ 40 14 6

A. S.

Though

Though it is impossible to give receipts to answer every particular circumstance, yet we hope these few general ones will be found sufficient, as they may so easily be varied, either with respect to time, the sums, or the persons, of or by whom the money is received.

Whenever money is paid for interest due on bond, the receipt should, if possible, be written on the back of the bond; taking care, at the same time, to write it on the back of the *printed* half sheet; for if it be written on the other [blank] half sheet, it may be torn off, and the bond will then appear in its full force, without any appearance of interest being paid. And in all cases be sure to *read* the receipt before you sign it, and write your name as near as possible to the body of the receipt, to prevent any thing being afterwards added. There is no necessity to prefix *by me*, or as some very formally say *per*, or according to others *I say received by me*; for it will ever be concluded, that the person who signs his name to a receipt, received the money.

*Promissory Notes* are now so commonly negotiated like Drafts, that the same instructions must in part be given for the former as for the latter; which, for want of room, we are obliged to postpone till next month, when we intend to resume the subject and to continue it regularly, adding such practical remarks as we may think necessary.

#### ARTICLE XVIII.

*On the virtue of Muck, or Litter Dung, when compared with that which is rotted, and the best time of laying it on the land.*

MR. AGRICOLA SYLVAN,

**M**UCH has been written and said about the nature of dung and the properest time of laying it upon the land. Tho' I am no philosopher, yet I have had some experience, and if I cannot account for the manner in which manure acts, yet by trying many experiments, I was seldom at a loss to judge which answered the best; but I never was fond of schemes and calculations, and of trying experiments that promised to make me worth twenty or thirty thousand pounds in a few years; for I thought it much like old Adam Speed's proposal for gaining, I cannot tell how many thousands a year, by keeping rabbits. Notwithstanding the many fine things that are said of rotten dung, which cuts like butter, yet I am still fond of muck or litter dung on many accounts, and for many purposes I prefer it to the other. Rotten dung has already  
fer-



fermented; the litter dung has not fermented, at least so much as the other; where therefore a fermentation is wanted to loosen the soil, the latter has often answered best with me.

I mean not to undervalue other people's judgment, nor to say that muck is best in all cases,—I know it is not; for example, wheat cannot well be dragged in with it; the muck must consequently be first ploughed in. But then if the land be kept in constant tillage, its virtue will be much the same, and the soil will be enriched and fertilized, and bear as good crops provided the necessary quantity be put on the land, and the plough goes deep enough to fetch it up again, when it has been ploughed in, that its virtue may not be spent in the bottom of the furrow below the staple of the field. If I wanted to manure some grass lands, I would sooner cover them with litter than I would with rotten dung. Experience is my guide. I am of opinion, there are more salts in the former than the latter; but as I said I know but little of natural philosophy, you must therefore pardon those mistakes which I may fall into, by drawing wrong inferences or conclusions. If the ground be covered with the muck while it is well moistened, and has been well soaked in the urine of the cattle, the rains will wash all the salts into the earth, which will surprisingly enrich pasture land, and bring great plenty of good grass.

But then, the time for laying it on ought to be considered and well observed; for it is not to be put on the land in March or April, to be dried by the wind, or scorched up by sun as the summer comes on; no; my rule is to spread it upon my lands in autumn, taking care to feed off those grounds I intend to manure, as early as possible. By following this rule the land receives all the benefit of the manure, and the young grass is kept warm in winter, by the muck lying upon it. With respect to young clover, I mean that which was sowed in the spring, I find it much the best method of any to spread my manure upon it as soon as possible after the corn is off; for it gets strength and takes better root before the frost sets in, and is not so liable to be spewed out of the ground by those short frosts and sudden thaws which we sometimes have about February. Many defer manuring their clover till the spring, or however do not lay it on till very late in the winter; but if their other business will permit them to cast on their dung in September, instead of January or February, I can assure them they will find a very great difference in favour of early dunging.

*W—shire.*

An Old FARMER.

*The*

## From the PHILOSOPHICAL TRANSACTIONS.

The Second Journey from the Cape Town into the Southern Parts of Africa; undertaken for the Discovery of new Plants, towards the Improvement of the Royal Botanical Gardens at Kew. By Mr. Francis Masson, one of his Majesty's Gardeners.

NOVEMBER 5th, We arrived at Swellendam, described in my first journey; and the same day dined with the Land Droft, who is a justice of peace, and collects different taxes from the peasants. After dinner we pursued our route to Buffel Tagt's Rivier, where is a place belonging to the East-India Company. There they keep a few wood-cutters, and from thence supply the wheelers at the Cape, conveying their wood in waggons drawn by oxen: this place, I think, is about 150 miles from the Cape. Here we rested five days for the benefit of our oxen, which had become very lean, and the Doctor got a fresh set out of the East-India Company's herd.

10th, To Davenhoek's Rivier, where we remained all night, and the next morning proceeded on our journey. The Doctor imprudently took the ford without the least inquiry; when on a sudden, he and his horse plunged over head and ears into a pit, that had been made by the *Hippopotamus amphibius*, which formerly inhabited those rivers. The pit was very deep, and steep on all sides, which made my companion's fate uncertain for a few minutes; but, after several strong exertions, the horse gained the opposite side with his rider.

14th, To Gasser Knyl's Rivier. Upon our left hand, a few miles distant, we had the chain of mountains before mentioned, which here take a N. E. direction. Their summits terminate in a number of lofty, rugged pieces, which have an admirable effect. Between this chain of mountains and the sea on the S. E. lies an extensive country, to appearance low; but when one travels across it, it presents a continued series of hills and dales. The hills are quite smooth and easy of ascent, and covered with long coarse grass, which cattle seldom eat. On the declivities of these low hills grows the *aloë Secotrina* in large clumps, which when old have stems about five or six feet high, with only a few thick leaves on their tops, that at a distance appear like bands of Hottentots. The peasants make great quantities of the gum aloë from the sap of the leaves, which they sell at the Cape from two to six pence per pound. There is a fine species of antelope, which inhabits only here, called by the peasants Bonte-Bock; something larger than a fallow deer, very shy, but not very swift.

15th, To Goud's Rivier; which at that time was about 100 yards broad, and the water came up to the seat of our saddles. On each side of this river lies an extraordinary track of land, which in the Hottentot language is called Carro. It is a dry, burning soil, of a reddish colour, intermixed with rotten rock, and intirely divested of grass; but enriched with an infinite number of evergreen shrubs, both frutescent & succulent: among the latter we found many new species of *crassula*, *cotyledon*, *euphorbia*, *portulaca*, *mesembryanthemum*. We resolved to visit the sea shore, and particularly Mossel-Bay; when, late in the evening, we came to the house of an European, who received us very hospitably. He was a native of Swedish Pomerania, about seventy years old; had been shipwrecked on the coast of England fifty years ago, and spoke much of the hospitality of the English. He was a man of learning, and expressed many sensible reflections on the tyranny of his native country, which had forced him to

seek



seek for an asylum in the deserts of Africa. His house was very mean, built of mud, and miserably furnished; not having a bed to lie on, though he had several hundred oxen and some thousands of sheep. He had a number of Hottentot vassals, whose huts were situated round his folds, where they kept several large fires all night long, to frighten away the wolves and tigers.

16th, We came to Mossel-Baay, which is very large, open, and exposed to the S. E. and E. The shore is covered with shrubs of various kinds; the greatest part of which were unknown to us, and many we did not find in flower. To the N. E. of Mossel-Baay lies a woody country, called Houtniquas Land; whose woods, intercepted by rivers and precipices, are so large, that their extent is not perfectly known. These woods are a great treasure to the Dutch, and will be very serviceable to the inhabitants of the Cape, when their other woods are exhausted. In them are numbers of wild buffaloes that are very fierce, and some elephants; which renders travelling dangerous. We now directed our course Northward to the foot of the great chain of mountains, which we had again to cross; it is there very broad, being a hard day's march from one side to the other. This pass is called by the peasants Hartiquas Kloof.

19th, We were several hours in ascending, and after descending on the other side, we entered a valley, surrounded by lofty mountains: here we rested that night by a stream of water, where we collected many curious plants.

20th, We continued our journey through a dismal valley, where we saw neither man nor beast; but our labour was generously rewarded by the productions of the vegetable kingdom, having found several new species of plants, which for neatness and elegance exceeded any thing I had ever seen. At night we got clear of the mountains, but entered a rugged country, which the new inhabitants name Capaan's Land; though it might rather be called the Land of Sorrow; for no land could exhibit a more wasteful prospect; the plains consisting of nothing but rotten rock, intermixed with a little red loam in the interstices, which supported a variety of scrubby bushes, in their nature evergreen, but, by the scorching heat of the Sun, stripped almost of all their leaves. Yet notwithstanding the disagreeable aspect of this tract, we enriched our collection by a variety of succulent plants, which we had never seen before, and which appeared to us like a new creation.

21st, To Great Thorn River, where we encamped under a large *mimosa* tree. During the night, we had several loud claps of thunder with rain.

22d, We entered Lange Kloof, which is a narrow valley, not exceeding two miles at the broadest, and in length about 100; bounded on the S. W. by the chain of mountains before-mentioned, and on the North and East by a lower ridge, which runs nearly parallel. It contains about seven or eight places, which are from twelve to twenty miles distant from each other; the houses are very mean, without walls, consisting only of poles stuck in the ground, meeting at the top, and thatched over with reeds. The people, however, are wealthy, possessing large herds and flocks. The Hottentots are in general servants to the Dutch farmers; who give them for wages beads, and tobacco mixed with hemp; the latter, which intoxicates them, they are extremely fond of. A few free Hottentots still remain here, who live in their ancient manner; but who are miserable wretches, having hardly any stock of cattle.

29th, To Kromme Rivier (that is, Crooked River) a long, marshy vale, which lies much lower than the former, and is bounded by a continuation of the above-mentioned mountains.

30th,

30th, To Esse Bosch, where we encamped that night in the open fields, clear of the woods, for fear of the lions.

Dec. 1st, We entered a fine level country, bordering on the Eastern Ocean, leaving behind us the chain of mountains before-mentioned, which runs obliquely across the country from the Atlantic to the Indian Ocean. At night we came to Zee-Koe Rivier, or Sea-Cow River, so called, erroneously, from the *hippopotamus amphibius*, which formerly inhabited it, but is now almost extirpated. We rested here eight days; in which time we ranged the adjacent woods and fields, where we greatly increased our collection. The river was frequented by a variety of water-fowl which afforded us good sport: there were numbers of the *phenocopterus ruber*, *pelicanus onocrotalus*, with many others, which we could not class, being unprovided, as I said, with books of Ornithology. We lodged at the house of Jacob Kock, an old German, who used us with great civility. He had built a handsome house, made gardens and vineyards, possessed numerous herds of cattle, and had upwards of a hundred Hottentots in his service, whom he employed in taking care of them. The face of the country changes greatly, being open, plain, and covered with verdure, extending many miles along the sea-coast, containing several tribes of Hottentots. The rivers formerly abounded with the *hippopotamus amphibius*; but since the Dutch inhabited these parts, they have almost destroyed them. They shoot them for their flesh, which they esteem equal to pork, their fat being much of the same quality. The manner in which the Hottentots catch these animals is as follows: the banks of the rivers, as I have already observed, are covered with almost impenetrable woods; these animals in the day time lodge themselves in the deepest places of the river, and when night comes, make excursions into the adjacent fields to graze, taking their course through paths, which they have made in the woods. In these paths the Hottentots dig large pits, which they cover over with boughs of trees and grass; then hunting them out of the fields, the animals make full speed towards the river, and fall into these pits; from whence they are unable to get out, on account of their great weight, and then the men come up with their lances and kill them. We found here a new palm, of the pith of which the Dutchman told us the Hottentots make bread; but we could get no satisfactory account of their method of making it. We observed two species; one about a foot and a half diameter in the stem, and about twelve feet high, with entire leaves; they appeared to be very old, and seldom bore fruit. The other sort had no stem, with the leaves a little serrated, and lying flat on the ground, which produced a large conical fructification about eighteen inches long, and a foot or more in circumference; squamose, and under each of the *squamæ*, is an oval nut, about the size of a chestnut, of a beautiful red colour, but insipid taste. The male plant is similar to the female, only not producing fruit, but bearing a *strobilus*, and containing the *pollen*, or male-dust, in small cells underneath its *squamæ*. In the woods here we found the *euphorbia antiquorum* forty feet high. The inhabitants observe, that the honey found near these trees is unwholesome. Being still determined to continue our journey about 150 miles further, directing our course towards the middle of the country, and to return to the Cape another way; I furnished myself with a set of fresh oxen and a fortnight's provision; and Mr. ROCK gave us one of his sons for a guide and to serve us as an interpreter, he being a perfect master of the Hottentot language.

9th, We took leave of our hospitable friend, and departing towards the evening, we stopped that night at the house of JACOB VAN RENNEN,



a wealthy grazier : this was the last Dutch place in this part of the country. From hence we travelled through a rugged hilly country, covered with thick coppices of evergreen trees ; but the way was so rough that our waggons were almost shaken to pieces. Towards noon we crossed Camtour's river, where we rested during the heat of the day, and amused ourselves in the woods along its banks, which were extremely pleasant : the river is broad and deep in many places. The woods are frequented by elephants, buffaloes, and lions ; and the deepest parts of the river by the *hippopotami*. We found many new plants here, notwithstanding our stay was so short. In the afternoon we advanced through a woody country, where we observed numbers of butterflies, which appeared like those of India ; but from the thickness of the woods we could not procure a single specimen. At night we came to Lory's river, so called from a species of parrot, which is found here. We were visited by several Hottentots, who came out of the woods armed with lances, but behaved very obligingly, and slept by our fire all night ; and we at the same time entertained them with tobacco, of which they were exceedingly fond.

11th, We travelled over a pleasant country, diversified with smooth green hills, interspersed with evergreens, and stocked with numerous flocks of the *capra dorcas* of LINNÆUS, *equus zebra*, and *camelus frutibus* ; which, together with the fine disposition of the woods and groves, could not but charm us, who, for upwards of three months, had been climbing rugged mountains, and crossing sultry deserts. In the evening we came to Van Staad's rivier, where we remained all night, and were visited by several Hottentots, who brought us milk in baskets made of fine reeds, which they weave so close that they hold any liquid.

12th, We crossed Van Staad's Rivier, where there is a large kraal, or Hottentot village, containing upwards of 200 inhabitants, who are possessed of great herds of bullocks, but of no sheep. These Hottentots were remarkably well-shaped, and stouter made than any other Hottentots I have yet seen. They are also very bold in encountering wild beasts, particularly the lion, which often attacks their folds, and makes great havoc. When this happens, all the young men of the kraal go in pursuit of him, directed by small dogs, who follow his scent : as soon as they discover him in the bushes, they irritate him, till he springs out with fury and attacks them ; when being all armed with hassagays, they often throw 20 or 30 into his body at once ; but it is common to lose a man or two in such attacks. These Hottentots were all clothed in *crosses*, or mantles, made of the hides of oxen, which they dress in a particular manner, making them as pliant as a piece of cloth : they wore the hairy side outwards. Their breast, belly, and thighs, were naked, except being crossed by a number of leathern straps round their middle. They had no other covering for their private parts, than a muzzle of leather exactly covering the extremity of the *penis*, and suspended by a leathern thong from their girdle, which was commonly ornamented with brass rings. Some had the skin of a reedbuck hung over their breast, with the skin of its fore legs and hoofs behind, which they look upon as a great ornament ; others had a buffalo's tail, fastened to a girdle which was tied round the thigh ; others a porcupine's quill stuck through each ear ; others had plates of brass of six inches square fastened to their hair, hanging on each side of their head ; others large ivory rings round their arms, with several other ridiculous fancies too tedious to mention. The women were dressed almost in the same taste, except that a great number of small thongs of leather, suspended from their

their girdle, reached down to their knees, and in some measure concealed their nakedness. They have captains or chiefs over each kraal; who claim the greatest part of the herds; the others seem only to be servants, though they have every thing in common, and pay little respect to their superiors. These Hottentots are called Gunaquas, but were mixed with another people whom the Dutch call Caffers, who border upon Terra de Natal. They were all armed with bassaguays, of which every one had eight or ten in his left hand. We found here the true Cape jessamine, or *gardenia stellata*, and the coral tree, *erithrina coral-lodendron*. The climate here differs much from that of the Cape. They have no S. E. wind, which is so troublesome there; their strongest wind is from the S. W. They seldom have rain in summer, though often thunder and lightning; the clouds being attracted by the lofty mountains are spent in showers before they reach the plain.

13th, 14th, We made but very short stages, employing our time in collecting plants, all of which were new. The buffalo is numerous in this country: it is a fierce animal, and larger than the biggest of our English oxen. In the day-time they retire to the woods, which renders it very dangerous to botanize there. We here saw two lions for the first time, at about 4 or 500 yards distance; but they took no notice of us, keeping their eyes upon a clump of the *capra dorcas*, which were feeding at some distance from them. We shot two of the buffaloes, which proved good eating.

15th, To Zwart Kop's Rivier, where we rested all night.

16th, To Zwart Kop's Salt-pan, where we remained the most part of that day. This Salt-pan is a lake several miles distant from the sea, and upon an eminence. In the rainy season it is filled with fresh water, which, by the saltness of the ground, soon becomes strongly impregnated with saline particles; and when the summer's heat exhales the fresh water, the bottom of the lake is covered with a crust of pure salt two or three feet thick. The lake is about three miles round, and surrounded by a rising ground, covered with a great variety of curious shrubs, many of which proved new. Here we found several singular insects, and among many others the *gryllus* and *cymex*.

17th, We travelled through a miserable parched country, covered with shrubs and succulent plants of various kinds; but the grass was entirely burnt up by the heat of the sun. We saw numbers of wild animals, and in particular a variety of the Zebra, called by the Hottentots Opeagha. We also observed the print and dung of elephants and lions. At noon we came to Sunday's river, where we rested a few hours, and consulted with our guide, whom we took from the last Dutch place, about proceeding on our journey. But both he and our servants refused to advance further; telling us, we were now on the border of a powerful nation of Hottentots, called Caffers; who, they said, would kill us, were it only to get the iron belonging to our waggons. In consequence of these remonstrances, and the bad state our carriages were in, being ready to drop to pieces, and many of our oxen sick, we, with much reluctance, consented to return the same way we came.

18th, We arrived again at Sea-cow river, where we repaired our waggons.

19th, 20th, We proceeded homewards through Kromme Rivier and part of Lange Kloof; but being informed there was a hot bath about a day's journey to the northward, we determined to see it, leaving our waggons and servants in Lange Kloof.

21st,



- 29th, Towards the evening we crossed the ridge of mountains on the north-side of Lange Kloof, and at night came to a solitary cottage belonging to a Dutchman, where we found several Dutch people, who were going next day to the hot bath, to use the water. We were glad of their company, and travelled over the driest country I ever beheld. The plains were covered with loose stones, and not a blade of grass to be seen; but we found many rare species of *crassula*, *mesembryanthemum*, and other succulent plants. In some places not a drop of water was to be found within thirty miles circuit. We could of course expect to see but few animals; those were the *capra dorcus*, *equus zebra*, *kocdoes*, and spring-bucks.

30th, At night we arrived at the hot bath, which is situated at the foot of a ridge of dry mountains: the water is very hot, and tastes strongly of iron. There is a Dutch settlement about 300 yards from the fountain, where they float their gardens every night with the water, which at that distance is still smoking. By this means they have all kinds of garden vegetables in the greatest perfection. Next morning we went up to the top of this ridge of mountains, which appeared like a mass of rocks heaped one on top of another, where we had an extensive view of the country, which appeared horrible, every thing being parched up, and even the beds of the largest rivers entirely dry. We found here a species of heath remarkable for having its branches and leaves all covered with a fine hoary down or nap, which we thought singular in that genus: we called it *erica tomentosa*.

Jan. 1st, We returned to Lange Kloof, and next day overtook our waggons; but many of our oxen were sick, having caught a disease which rages there amongst the horned cattle in summer, and so affects their hoofs that they often drop off, and great numbers die. This disease proves detrimental to the Dutch peasants, who live 5 or 600 miles in the country, when they make a journey to the Cape. Their oxen are often seized with it in the middle of a desert, and sometimes must remain there for a month till they recover. This makes their journeys to the Cape long and disagreeable, especially as they are obliged to take with them their wives and children, for fear of their being murdered by the Hottentots in their absence.

3d, We came to Great Thorney river, where we again parted with our waggons, in order to examine a large tract of Carro, where it was improper to take our oxen on account of the scarcity of water. Late in the afternoon we came to a peasant's house, who informed us, he had a neighbour about four hours ride from his place, by whom we should be kindly received, and who would further direct us on our journey. After having put us in the road, and given us some directions, he parted with us, and we pursued our journey till sun-set, but found no habitation. We therefore concluded, that we had certainly lost our way, and returned some miles back, where we found a road which branched off another way. In this path we continued till one o'clock in the morning, having got into a dismal valley, inclosed on each side with rugged precipices: at last we found ourselves in the middle of a thicket of thorn trees (*mimosa nilotica*) where we unsaddled our horses and kindled a fire. We passed the night with little comfort, having eaten nothing all that day; but to our great satisfaction we heard the murmuring of a stream, which we went in search of, and found good water: our concern, however, was still greater for our poor horses that had nothing to eat. We spent the night in gathering wood and keeping our fire up till day-light, when

when I climbed up a high precipice, and viewed the country. Here I collected several curious plants, *geranium spinosum*, *Stapelia euphorbioides*; and upon my return, we mounted our horses, and directed our course towards the high mountains, where we expected to find some relief, but were disappointed; for after being parched up with insupportable heat, we met not with a drop of water to quench our thirst during the whole day's journey. But towards the evening we happily discovered a house, where we were kindly entertained, and the next morning overtook our waggons in Hartwick's Kloof; but our oxen were in a bad state, and one of them was quite unfit for service. We continued our journey without any other remarkable event, except that of losing more of our oxen by the above-mentioned disease.

12th, Came to Buffels Tagt river, where we rested several days, ranging the adjacent woods, where we found many curious trees in bloom.

29th, We arrived at the Cape Town, after a journey of four months and fourteen days.

[Mr. Masson's third Journey in our next.]

## P O E T R Y.

### AUTUMN. An ODE.

**S**TERN Autumn's yellow finger see,  
On every shrub, on ev'ry tree;  
The fields have lost their verdant hue,  
And Zephyr bids the grove adieu;  
No more the fragrant rose invites,  
No more the purling stream delights,  
Nor Shepherd pipes beneath the shade,  
Nor courts in song, his fav'rite maid:  
Pomona now has shed her store,  
The peach and nest'rine are no more;  
No more the laden nut-tree bends,  
No more the clust'ring grape depends,  
Or fruit the ransack'd orchard shows,  
Save elders, black-berries, and sloes;  
With hips, and haws, the hedges teem,  
And other fruits of like esteem.  
Yet hungry birds, of ev'ry kind,  
Midst these their food in winter find;  
Fed by that hand that loves to bless,  
And save its creature from distress;  
Now short'ning days, and length'ning  
nights,  
Bring forward winter's new delights:  
The book, the friend, the social board,  
A thousand pleasing scenes afford;  
As if forbid abroad to roam,  
We found the greater joys at home;  
Like those whom virtue has confin'd  
To pleasures of the mental kind,  
Who freely sensual joys forego,  
The greater joy themselves to know.  
Now dame, who by her profits thrives,  
Of all the honey robs her hives;  
Nor scruples when she gains the prize,  
To suffocate the harmless flies.

Thus wretches oft their gold obtain,  
By those they've massacred and slain;  
Whose honest labour must supply  
Their pride, expence, and luxury.  
Now winter's reign's almost begun,  
The business of the year is done;  
Now safe in barns, the ripen'd grain,  
No longer decks the furrow'd plain;  
Fresh grain into the earth is tost,  
Or all the future year were lost;  
For if that grain became not dead,  
The rising year would want its bread.  
Thus human hearts must die to sin,  
Before the spirit stirs within;  
The Farmer sly, almost content,  
In secret corners hides his rent,  
Lest coming winter's darken'd night,  
The robber to his purse invite.  
Now loud resounds the thresher's flail,  
And Boreas swells the midnight gale;  
Now browner looks the stubborn brake,  
And crows the close-nip'd mead forsake,  
To rest in straw, secure from harm,  
The snug retinue of the farm;  
The Farmer too, from cold to guard,  
With loads of straw bedecks his yard,  
That cows, pigs, chickens, all together  
May bid defiance to the weather,  
Who for a while promise'ous hail'd,  
Form a just emblem of the world,  
Where each pursues his own delight,  
And seeks a warm abode at night.  
Here the kind hen choice morsels picks,  
And clucks, inviting all her chicks;  
This were an harbour for the rat,  
But for the sly designing cat;



This too were clover for the hog,  
 But for the Farmer's worrying dog;  
 One dunghill cock here fights another,  
 And ev'ry neighbour wounds his brother.  
 The squire now rises with the sun,  
 And calls aloud for dogs and gun,  
 With eager haste pursues the game,  
 Ambitious of a sportsman's name;  
 With swiftest hounds torments the hare,  
 And wounds the partridge high in air;  
 Or brings the pheasant from the sky,  
 Adorn'd with plume of beauteous dye:  
 Phoebe, a brisker flame to raise,  
 With sticks and bark invites the blaze,  
 And larger logs supply the fire,  
 To welcome home the dirty Squire.  
 While many sicken at the state,  
 And mummery of being great,  
 From whom all appetite is fled,  
 With whom each genuine bliss lies dead.  
 In chimney corner sits the hind,  
 And feasts on bread and bacon-rind,  
 While, with a cup of maltless beer,  
 He crowns his coarse, tho' wholesome  
 cheer,  
 Yet health and peace to him are given,  
 To vindicate the ways of heav'n,  
 Who thus to poverty can grant,  
 The happiness that riches want,  
 And gives the grace, so few inherit,  
 Most largely to the poor in spirit.

Saffron-Walden, Oct. 29. E. F.

### The A N T.

**T**URN on the prudent Ant, thy  
 heedful eyes, [wise,  
 Observe her labours, sluggard, and be  
 No stern command, no monitory voice  
 Prescribes her duties, or directs her  
 choice.  
 Yet timely provident, she hastes away  
 To snatch the blessings of the plente-  
 ous day;  
 When fruitful summer loads the teem-  
 ing plain, [the grain.  
 She gleans the harvest, and she stores  
 How long shall sloth usurp thy use-  
 less hours, [powers,  
 Dissolve thy vigour, and enchain thy  
 While artful shades thy downy couch  
 enclose,  
 And soft solicitation courts repose,  
 Amidst the drowsy charms of dull de-  
 light,  
 Year chafes year with unremitted flight,  
 Till want, now following fraudulent &  
 slow,  
 Shall spring to seize thee like an am-  
 bush'd foe.

[Review of Books, with other promised Articles, in our next.]

### To a L A D Y.

Against TEARS.

**M**ADAM, persuade me tears are  
 good  
 To wash our mortal cares away;  
 These eyes shall weep a sudden flood,  
 And stream into a briny sea.  
 Or if these Orbs are hard and dry,  
 (These Orbs that never us'd to rain)  
 Some star direct me where to buy  
 One sovereign drop for all my pain.  
 Were both the golden Indies mine,  
 I'd give both Indies for a tear:  
 I'd barter all but what's divine,  
 Nor should I think the bargain dear.  
 But tears, alas, are trifling things,  
 They rather feed than heal our woe:  
 From trickling eyes new sorrow springs,  
 As weeds in rainy seasons grow.  
 Thus weeping urges weeping on:  
 In vain our miseries hope relief,  
 For one drop calls another down,  
 Till we are drown'd in seas of grief.  
 Then let these useless streams be staid,  
 Wear native courage on your face;  
 These vulgar things were never made  
 For souls of a superior race.  
 If 'tis a rugged path you go,  
 And thousand foes your steps sur-  
 round,  
 Tread the thorns down, charge thro'  
 the foe;  
 The hardest fight is highest crown'd.

The HAPPY MAN; in Imitation of  
 POPE's "Ode on Solitude."

**H**APPY the man whose rural shade  
 Is seated near some verdant hills;  
 Where gurgling streamlets gently glide  
 In limpid rills.  
 Whose farm ( compos'd of fruitful fields,  
 Sequester'd grots and lonely caves;)   
 By his own cultivation yields  
 What nature craves.  
 Blest, who in sweet devotion spends  
 The fleeting tenor of his days;  
 Who morn begins and evening ends  
 With heav'nly praise.  
 Content if Fortune smile or frown,—  
 He sleeps in undisturb'd repose:  
 In unfeign'd grief who feels his own  
 In others' woes.  
 Thus, far from rancour, noise or strife,  
 (Would Heaven grant my fond desire)  
 I'd lead a solitary life,  
 And thus expire.

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And R. CRUTT WELL, in BATH;

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| COUNTIES INLAND.            |       |       |       |       | Norfolk                         | 4 | 5  | 2 | 10 1 11 1 10 3 0 |
| Middlesex                   | 5     | 0     |       |       | Lincoln                         | 4 | 2  | 3 | 2 2 1 1 7 3 2    |
| Surrey                      | 4     | 9     | 3     | 5     | York                            | 4 | 9  | 3 | 0 2 4 1 8 3 6    |
| Hertford                    | 4     | 9     |       |       | Durham                          | 4 | 1  | 1 | 3 4 2 3 1 7 3 7  |
| Bedford                     | 4     | 9     | 3     | 4     | Northumb.                       | 4 | 3  | 3 | 2 1 1 1 1 6 2 10 |
| Cambridge                   | 4     | 10    | 2     | 11    | Cumberland                      | 4 | 8  | 2 | 10 1 10 1 5 3 4  |
| Huntingdon                  | 4     | 8     |       |       | Westmorel.                      | 5 | 0  | 3 | 3 2 4 1 4        |
| Northampt.                  | 5     | 0     | 2     | 4     | Lancashire                      | 5 | 6  |   | 2 4 1 10 3 1     |
| Rutland                     | 5     | 0     |       |       | Cheshire                        | 5 | 0  | 3 | 1 2 6 1 6        |
| Leicester                   | 4     | 11    |       |       | Monmouth                        | 5 | 4  |   | 2 3 1 6          |
| Nottingham                  | 4     | 7     | 2     | 11    | Somerset                        | 5 | 9  | 3 | 4 2 3 1 9 3 0    |
| Derby                       | 5     | 4     |       |       | Devon                           | 5 | 8  |   | 2 2 1 3          |
| Stafford                    | 4     | 11    | 3     | 2     | Cornwall                        | 5 | 2  |   | 2 1 1 6          |
| Salop                       | 4     | 9     | 2     | 11    | Dorset                          | 5 | 5  |   | 2 1 1 10 3 3     |
| Hereford                    | 4     | 5     |       |       | Hampshire                       | 4 | 8  |   | 2 3 2 0 3 3      |
| Worcester                   | 4     | 11    | 2     | 10    | Suffex                          | 4 | 7  |   | 2 4 2 0 3 1      |
| Warwick                     | 5     | 2     |       |       | Kent                            | 4 | 7  |   | 2 7 2 2 10       |
| Gloucester                  | 5     | 3     |       |       | From Dec. 2, to Dec. 7, 1776.   |   |    |   |                  |
| Wilts                       | 5     | 0     |       |       | WALES.                          |   |    |   |                  |
| Berks                       | 4     | 9     | 4     | 0     | No. Wales                       | 4 | 11 | 3 | 9 2 1 14 3 0     |
| Oxford                      | 5     | 2     |       |       | So. Wales                       | 5 | 0  | 3 | 9 2 6 14 2 7     |
| Bucks                       | 4     | 9     |       |       | Part of SCOTLAND                |   |    |   |                  |
|                             |       |       |       |       | Wheat Rye Barley Oats Beans Big | 3 | 8  | 1 | 7 1 4 1 1 9      |

## A general LIST of the DISEASES and CASUALTIES, in London, Westminster, and Middlesex, from Dec. 12, 1775, to Dec. 10, 1776.

|                                        |      |                                                        |      |                         |      |
|----------------------------------------|------|--------------------------------------------------------|------|-------------------------|------|
| <b>A</b> Bortive and Still-born        | 513  | Evil                                                   | 33   | Measles                 | 153  |
| Aged                                   | 1212 | Fever, malignant fever,                                |      | Miscarriage             | 1    |
| Ague,                                  | 6    | scarlet fever, spotted                                 |      | Mortification           | 194  |
| Apoplexy and Sudden-ly,                | 247  | fever, & purples                                       | 1893 | Palsy                   | 73   |
| Asthma & pthific                       | 301  | Fistula                                                | 6    | Pleurisy                | 18   |
| Bedridden                              | 5    | Flux                                                   | 10   | Quinsy                  | 6    |
| Bleeding                               | 11   | French pox                                             | 67   | Rash                    | 2    |
| Bloody flux                            | 1    | Gout                                                   | 71   | Rheumatism              | 6    |
| Bursten and rupture                    | 10   | Gravel, stone, and stran-gury                          | 44   | Rickets                 | 1    |
| Cancer                                 | 81   | Grief                                                  | 8    | Scurvy                  | 3    |
| Canker                                 | 2    | Head-ach                                               | 1    | Small-pox               | 1728 |
| Childbed                               | 193  | Headmould shot, horse-shoe head, and water in the head | 26   | Sore throat             | 8    |
| Cholic, gripes, & twisting of the guts | 45   | Jaundice                                               | 120  | Sores and ulcers        | 15   |
| Cold                                   | 6    | Imposthume                                             | 2    | St. Anthony's fire      | 1    |
| Consumption                            | 4508 | Inflammation                                           | 89   | Stoppage in the stomach | 13   |
| Convulsions                            | 5027 | Itch                                                   | 3    | Surfeit                 | 1    |
| Cough & hooping cough                  | 181  | Leprosy                                                | 1    | Swelling                | 6    |
| Diabetes                               | 1    | Lethargy                                               | 3    | Teeth                   | 771  |
| Dropfy                                 | 933  | Livergrown                                             | 5    | Thrush                  | 57   |
|                                        |      | Lunatic                                                | 40   | Vomiting and Looseness  | 4    |
|                                        |      |                                                        |      | Worms                   | 7    |

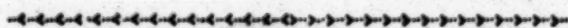
### CASUALTIES this Year

|                    |     |                      |    |            |   |
|--------------------|-----|----------------------|----|------------|---|
| Bit by a mad dog   | 1   | Executed             | 16 | Poisoned   | 3 |
| Broken limbs       | 2   | Found dead           | 3  | Scalded    | 5 |
| Bruised            | 2   | Killed by falls, &c. | 60 | Suffocated | 5 |
| Burnt              | 13  | Killed themselves    | 32 | Smothered  | 1 |
| Drowned            | 112 | Murdered             | 6  | Starved    | 3 |
| Excessive drinking | 5   | Overlaid             | 8  |            |   |



T H E

## FARMER'S MAGAZINE.



*A DISSERTATION on the Progress and present State of*  
AGRICULTURE. [Continued.]

**W**HEN the Spaniards first arrived in America, the Indians took them for men come from Heaven; and it was no wonder, considering the extreme novelty of their appearance, and the prodigious superiority they had in every respect over a people in all the nakedness of mere nature. They had never before seen horses; their dread of these animals, and their riders, was extreme, for they thought both formed but one animal, and the impetuosity of their charge appeared irresistible to those naked and ill-armed people. Wherever they appeared, the Indians who intended any hostility immediately fled; nor did they think the intervention of the deepest and most rapid rivers any security; they believed that the horses could fly, and that nothing was impossible to creatures so extraordinary.

Small as the number of the Spaniards was, the inhabitants were extremely burthened to subsist them. One Spaniard consumed more than ten Indians; a circumstance which shews how little this people had advanced in the art of cultivating the earth, or how lazy they were in doing it, since their indigence reduced them to such an extreme frugality, that they



found the Spaniards, who are the most abstemious people upon earth, excessively voracious in the comparison. America was then almost without those animals by which we profit so greatly. It had neither horses nor oxen, nor sheep nor swine. Columbus carried eight sows into America, and a small number of horned cattle. This was the stock which supplied, about two hundred years ago, a country now the most abounding in these animals of any part of the known world, so that it has been a business for this century past, to hunt oxen merely for their hides; their hunters are called Buccaneers.\*

As the Indians live chiefly by hunting and fishing, they cultivate no more land than is necessary for their subsistence and hospitality to strangers. An appetite for animal food, with the facility of acquiring it, makes them neglect husbandry. They use neither horses nor ploughs, but instead of ploughing or digging, they hoe their fields or plantations by common labour. Their villages are from ten to eighteen miles distant from each other, and in fact all places inhabited by savages are ever thinly peopled, thro' their aversion to labour and cultivate the earth, without which no country can be populous; hence one may easily judge how small a part of this continent they cultivated; for though they removed to fresh spots when the old ones had lost their fertility, yet such little pieces are very inconsiderable, when compared

\*The Pirates, whom we called Buccaneers improperly, the French denominated *Flibustiers*, from the Dutch *fly-boats*, in which they made their first expeditions. Some of the Buccaneers joined the *Flibustiers*, and from them we named the whole body *Buccaneers*. These people brought their prizes and plunder frequently into Jamaica, by which they enriched that island extremely; and raised it at once to a surprising pitch of opulence, which it hardly equals even in our days. They often brought two, three, or four thousand pieces of eight at a time, which were immediately squandered away in all the ways of excessive gaming, wine, and women; so that vast fortunes were made, and the returns of treasure to England were prodigiously great.

pared with the vast forests that remained uncleared. They generally chose the most fertile spots, and such as could be cultivated with little trouble. The European inhabitants have absurdly enough adopted the Indian method of agriculture, for they sow their lands as long as they will produce a crop without manuring, and then break up fresh land; but this we shall have occasion to note more particularly hereafter.

It has however been observed, that the Hurons of Canada, (the most sensible, civilized nation on the continent of North America) pare and burn their soil; and this has been their immemorial practice.

Tobacco was planted in large quantities by the Indians, and its use from them was brought into Europe; but we are strangers to their method of cultivating it; they now plant none, but buy what they want of the English.

The culture of the Indian corn, of which we have given a plate in this Number, will be described when we come to treat distinctly of American husbandry.

The Indians being all soldiers, mechanism can make but little progress; besides, they labour under the disadvantage of having neither proper tools, nor persons to teach them the proper use of those few they have. Thus, for want of saws, they are obliged to cut or hew a large tree on each side, with infinite labour and fatigue, to make a clumsy board; and yet, considering this disadvantage, their houses are tolerably well built, some two stories high; but very inconvenient and disagreeable, for want of chimneys.

Their canoes are the next work of any consequence; they are generally made of a large cypress, pine-tree, or poplar, from thirty to forty feet long, and about two feet broad, with flat bottoms and sides, and shaped alike at both ends; these are now hollowed with tools which they procure from the Europeans; but formerly this work was done by means of fire. Their canoes are very light, and will carry fifteen or  
twenty



twenty men; and so great is the skill of the Indians in managing them, that they can force them up a very strong current; the bark canoes are mostly used by the northern Indians.

Their titles are usually conferred in reward of some great action. This *Outacity*, or *Outacite*, signifies the *Mankiller*; the *Little Carpenter* was a title given to Attakullakulla, from his excelling in building houses. Old warriors likewise, or war women, who can no longer go to war, but have distinguished themselves in their younger days, have the title of *Beloved*. This is the only title females can enjoy; but it abundantly recompenses them, by the power which they acquire from it, which is so great, that they can by the wave of a swan's wing, deliver a wretch condemned by the council and already tied to the stake. And when either affection or caprice determines them to give life to a prisoner, they give every thing which in their opinion belongs to it; he is at once incorporated with them, and is in every respect treated like themselves: the infants are adopted by some among them, and treated like children of their own bodies; and no woman thus saved, is reserved from base motives, or her honour ever violated.

The missionaries are generally treated with both cruelty and contempt; but then their success is greatly obstructed by many, who, being christians only by profession, exhibit no examples of christianity, nor any signs of religion; and moreover indulge the savages with a free trade for spirituous liquors, which debauches their morals, by producing the most brutal intoxication.

We have already taken notice of their inordinate fondness for spirituous liquors; and of this excessive fondness, some of the rapacious Indian traders know but too well how to avail themselves. As many of our readers may probably be strangers to this method of negotiating with the savages, a concise account may not be unentertaining.

The

The trader is allowed only two gallons of rum (if we mistake not) for every one of his company, which is sometimes pretty numerous, and which the laws strictly prohibit him to sell to the Indians. On his arrival at one of their towns, he is immediately accosted by an Indian, who asks him if he has any rum to sell. He is answered in the negative. Various pressing arguments are used, but still the trader dares not sell, and appeals to the Indian's knowledge of the prohibition. He then begs for a small glass, as it is not prohibited to be given away, though it may not be sold; but the trader has none to spare, having brought a little only for the use of himself and his servants. However, after much intreaty, he gives him a glass, because he is an old acquaintance. No sooner has he tasted, than his desire and longing for more become insatiable; he will give him a skin for another glass: this, but with the utmost seeming reluctance, is accepted, and another, and another, and another, till the poor besotted stupid wretch, has not another skin left. Then follow his gun, his hatchet, his pouch, his knife, his blanket, and in short, every thing that he is possessed of; his friend the Trader all the while reasons, remonstrates, and persuades him not to drink any more; continually assuring him that he will strongly repent the next day; but all in vain.

No sooner are the fumes of that fallacious liquor dispersed, than the miserable wretch flies to the harpy, who endeavours to console him, by repeating the various arguments and remonstrances he made use of to dissuade him from drinking, and by pointing out those fatal consequences of which he now so sorely repents. And in order to shew his own humane disposition, generally returns him his gun, pouch, knife, &c.—but carries off the skins in triumph. Thus for a few glasses of rum, the deluded senseless savage is cozened out of all the skins he has procured during the hunting season, by a *crafty deceitful* villain.

But



But how small soever the progress of the missionaries may have been in planting the christian religion; certain it is they have made many useful discoveries for the benefit of commerce, and established correspondencies among the distant tribes that inhabit the vast continent of North America.

The Indians seldom go abroad without their fire-arms, lances, daggers, or knives; and their dexterity in killing wild creatures, is admirable. After their return from hunting, their whole conversation turns upon the sport and success which they have had.

They are immoderately fond of painting their faces and bodies; and the number of miles one of these savages will travel to procure the necessary pigments, without having any other business, when they are not to be had in his own country, almost exceeds belief.

They know but little of writing, or hieroglyphicks: the Mexicans, when their country was invaded by Cortez, had no other method to inform Montezuma of it, than by painted cloths so as to represent any circumstance, and interspersing characters to explain what must be necessarily wanting in the picture.

Their method of preserving venison, is singular. They cut it into thin slices, and then hold each slice before the fire till it is perfectly well dried; after which it is put into a basket and hung up in a dry place, and reserved for use; this boiled with Indian corn and pepper, is their favourite dish.

They will kindle a fire by rubbing two sticks together; the operation, however, is extremely tedious. They will lie down and sleep all night in the snow, without any seeming inconvenience; but not stretched at length like an European. The savage draws his heels up to his posteriors, and places his head between his knees; his blanket (for he has no other covering) is wrapped all round him, so as to permit him to breathe within it, and cover his face.

[To be continued.]

ART.

ART. II.—*Natural History and Cultivation of the most useful Plants and Grasses, with their figures engraved.*—Continued.

M A D D E R.

**M**ADDER, or Dyers Madder, [*Rubia Tinctorum*,\*] is the English name of a plant cultivated with great advantage in several parts of Europe, and lately in England, being a very capital ingredient in the dying business.

There are several species of madder, all of which afford a dye. M. Guettard, of the Royal Academy of Sciences, has experienced that the ladies bed-straw, or cheese-rennet, [*galium*] may be made to yield one; and of this kind is probably the Ray-de-chaye, which is used on the coast of Coromandel for dying red. M. Dambourney has not, indeed, as M. Duhamel remarks, hitherto been able to extract a good colour from the gallium: but there yet remains room to hope that he may be more successful in the future experiments which he intends to make on this root.

Mr. Ray mentions and describes four different kinds of gallium or mollugo, bastard madder, which, after the laudable example of our enterprising neighbours, should likewise afford matter of experiment to those who wish well to this country, and particularly to our dyers.

The azala, or izari of Smyrna, perhaps more properly written hazala or lizary (according to the eastern method of pronunciation) which is the sort used by the French dyers at Darnetal and Aubenas, to give cotton that fine carnation colour for which Adrianople is famed, is a true madder. Some species of it grow naturally under hedges and in woods; and the roots of these, when carefully dried, yield as fine a dye as the azala of Smyrna. M. Dambourney has cultivated a species of madder which was found growing wild on the rocks of Oissel in Normandy, and the roots of this plant have yielded him as beautiful a dye as the azala of the East. We shall hereafter speak of it in his own words: but in the mean time we cannot help observing here, that Mr. Ray describes particularly a wild madder which grows not only on St. Vincent's rock, near Bristol, but also on the rocks about Biddeford in Devonshire, and in great plenty among the hedges almost all over that county. As Mr. Ray calls this the *Rubia sylvestris Monspessulana major*, and as M. Duhamel suspects M. Dambourney's Oissel madder to be that very species, it surely is a mat-

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\* Our Engraver has, by mistake, called it *Rubra Tinctorum*.



ter of great importance to this nation, and well worth the attention of patriots to follow M. Dambourney's example in making proper trials of it.

The species most commonly cultivated is the *Rubia tinctorum sativa*, J. B. III. 2. 714. and C. B. Pin. 333. commonly known among us by the general name of Madder. It is of this species that the plantations of madder are made in Zealand, and in the neighbourhood of Lisle.

The root of madder is a capital drug used in dying wool, linen, and cotton; and indispensibly requisite in printing linen and cotton: being the only red dye in general use for that purpose. It was, at the time when the Society for the encouragement of arts, &c. first engaged in the encouragement of it, wholly imported from Holland: though it had formerly been a staple article of produce in our own country. We pay annually for this root to the Dutch an exceeding great sum; not less, according to calculation, than near three hundred thousand pounds; and, what is still worse, taking the advantage of the necessity we are under to purchase it of them, they have not only advanced the price to an exorbitant rate; but adulterate and sophisticate the madder in so bad a manner, as lays our manufactures, in which it is used, under the greatest difficulties. These manufactures, moreover, in which it is absolutely necessary, are of the utmost importance to us: particularly the printing linen and cotton; which furnishes employment to some thousands of our women and youth; who would, otherwise, be waste hands; and many of them burthen some to the public. Nothing, therefore, could be more worthy the regard of the Society, than the introduction of the culture of madder here; which may tend to the national good so many different ways.

There was, however, at first, an almost insurmountable impediment to the culture of madder in England. It consisted in this circumstance, that madder being a crop raised on land, it was subject to pay the tythe in kind: which was, in fact, so heavy a tax on the produce, as, together with the great expence and risk, from the want of a more perfect knowledge of the manner of cultivation, almost entirely discouraged all attempts in a larger way. This obstacle was, nevertheless, removed through the endeavours of the society; by the obtaining an act of parliament, to change the demand of tithe in kind, to a modus, or composition, of five shillings per acre, for a term of years. The society thus, by their interposition in this matter, procured the first opening to that success, which

which is now likely to attend the attempts, to restore the production of this important article to our country.

The society, in the mean time, exerted themselves to incite the attention and spirit to undertake the culture of madder by premiums. The first they offered was for the producing twenty pounds weight; the most perfect and best cured. This was obtained in the year 1755. They then, being by this means assured, that a method was known in England of raising and curing good madder, proposed premiums for the largest roots, twenty in number, of one, two, or three years growth: which were accordingly claimed and obtained for each kind, in the year 1758; and again in 1759.

The reasons why the cultivation of this plant, notwithstanding the noble efforts of the society to establish it, did not increase, were various; and possibly a great part of them owing to erroneous notions, and a less perfect knowledge of the best method of culture.

The number of plants thought necessary, the society requiring twenty thousand on each acre, was perhaps one discouragement; as it augmented the expence considerably: the plants being at first of the price of one guinea per thousand, and since half a guinea. But it is believed by very great judges, that half the number are sufficient; and, in the last premium, the society have not directed any particular number of plants.

The very great depth of soil supposed to be necessary, was another discouragement: as some imagined three or four feet depth was indispensable. Whereas good madder is raised on land, suitable in other respects, that is only from twelve to sixteen inches deep.

The notion, that crops of madder impoverished and exhausted land on which it was cultivated, was, also, another difficulty which stood in the way of the increase of the culture of it. For the proprietors of proper land, which, according to the above-mentioned notion of great depth of soil, was only to be found in particular places, would not let it but on long leases. This greatly incumbered the planters of madder: who, after they had obtained two crops, had no longer any use for the land; and were obliged to let it again on disadvantageous terms. But such a caution in the proprietors of land was without foundation. For, though it was impaired after two crops, and considerably exhausted after three, with respect to the further production of madder, it was still no way injured by the crops of madder for the



production of corn, or gramineous plants; which only derive their nutrition from the soil a little below the surface. On the contrary, if the land had been before worn out by crops of that kind, it would be improved by the culture of madder: which would produce the same effect as trench-ploughing; of which the benefit is well known in soils of considerable depth.

These reasons, and the want of a more perfect knowledge of the profitable methods of cultivating and curing madder, together with the expences originally attending it, discouraged Farmers, and persons concerned in common affairs of agriculture, from readily going into this matter, and prevented so quick a progress of it. But happily those quantities, which were, nevertheless, raised, occasioned a thorough conviction of the superiority of our madder, to that brought from Holland: which, with the exorbitant price, as well as uncertainty of quality, of the Dutch, that had of course the operation of a premium, has determined many of the consumers of madder to turn their views to this important matter; and undertake themselves to raise what they have occasion to use.

There has, indeed, one very beneficial consequence already resulted from the steps that have been taken: which is, that the Dutch have been deterred by them from the raising the price of this commodity, so necessary to us, to a still greater height. For the States themselves, sensible of the strong reasons for keeping this article out of our hands, have checked, as far as they could, by the strictest prohibitions, the depraving it, when sent to our market, by adulteration.

Should the establishment of the production of this momentous article in our own country, be at length brought to bear, as there is now the greatest ground of hopes it will, the whole merit of this invaluable acquisition must be ascribed to the society. They took the encouragement of it upon them, at a time when the former miscarriages of private persons had occasioned the pursuit of it to be wholly neglected, and laid aside; and they have continued to prosecute the design with the most assiduous attention, and at a large annual expence.

Mr. Miller says, the land upon which he found madder to thrive the best, was a soft sandy loam, and that which had been in tillage some years, to be better than that which was fresh broken up. Sandy soils differ so much, that it may be necessary for us to remark, that the naturally loose sand is exceedingly improper, as being commonly barren; while those rich sandy soils frequently occupied by gardeners, are perhaps  
some

some of the most fertile in the world. The soil for madder should certainly be a good mellow one, and of a sufficient depth, and then with care, there will be little danger of its not succeeding.

In Zealand, where the best madder is raised, they begin planting madder towards the latter end of April; and continue all May. The young shoots from the sides of the roots, are taken off from the mother plant, with as much root as possible, and are then planted in rows one foot asunder, and four rows in each bed. The first year, it is customary to plant cabbages, or dwarf kidney-beans between the beds, but there is always great care taken to keep the ground very clean from weeds. In September or October, when the young madder is cleaned for the last time, the haulm or stalk of the plants is carefully laid down and covered with earth, either with the plough or the spade.

The second year, in April, the earth is scuffled over and raked, to destroy the young weeds; observing, during the summer, to keep the madder as clean as in the first year, but nothing is planted or suffered to grow between the beds; and in September or October, the haulm is again laid down, and in November again covered with earth.

By this method of culture, the eligibility of planting madder in beds, is obvious, as it can be so easily covered with earth; and as the beds are heightened, the roots of the madder will be greatly lengthened, and will likewise put out more fibres and be better rooted; besides, the wet will drain off better in winter.

As the roots are seldom digged up till they have grown three summers, the culture of the third year is the same as in the second.

It is forbidden, in the Zealand isles, to dig up madder before the first day of September. When it is digged, the people carry it to the stove, and from the stove to the tower, where it is afterwards threshed to clean it from dirt or filth, and then carried to the kiln, where it is dried upon hair-cloths. From the kiln it is carried to the pounding-house, to be pounded and sifted, after which it is put into casks; but is first examined by sworn assayers and tried, and then packed up.

In Zealand, madder is cultivated by every kitchen-gardener, each having a quantity to take up annually, in proportion to the size of the garden; and most of the Farmers there do the same: for as the roots require three years growth to have them in perfection, so they every spring plant a certain allotment



ment of land for the purpose. The ground which has produced madder, will be fresh and well prepared for other crops, in like manner as the land upon which asparagus-roots have grown to be taken up for forcing upon hot-beds in winter, which is practised by most of the kitchen-gardeners near London, for these roots are commonly allowed three years growth, by those persons who value themselves on having large asparagus; so there is a great affinity in the culture of both these roots, for the land which will produce one of these crops, is always good for the other.

It should be observed, that though the Dutch cover the haulm of their madder with earth, probably to secure the plants against the severity of their winters, yet as the roots are never injured by our frosts, this practice is with us unnecessary. And in the third year, the haulm should be frequently turned over, from one interval to another, because if it lies too long in one position, it will rot, and (the sun being thus entirely excluded) the roots will be impeded in their growth. Neither should the haulm be cut off in the summer, as this will likewise tend to weaken the roots. As soon as the haulm begins to decay, the roots should be taken up, for they will be plumper than if they are suffered to remain longer in the ground. The land after being thus dugged, will be excellent for carrots and parsnips, or any other less rooted plants.

There have been some objections of late made to the introducing, or rather retrieving the culture of madder in England, which it may be proper here to take notice of, lest they should have so much weight as to prevent many persons from engaging in it. The first which has been generally started is, that the land in this country is not so well adapted for growing madder as that in Holland; to which we with truth affirm, that there are vast tracts of land here equally well adapted for the producing madder as the best land in Zealand, and from the experience which we have had of its growth, will produce as great, if not a greater crop.

Another objection is the expence of erecting a stove, kiln, mill, &c.; but in answer to this, it is found by experience, that the green roots, when pounded, will answer the dyer's purpose extremely well; one pound of the fresh root being equal to about four or five pounds of the best Umbro madder when dried; so that the expence of building kilns, the risque in drying, the waste, and the expence of grinding or pounding, are saved. The roots may be preserved in the same  
manner

manner as carrots are directed to be preserved in the *Farmer's Magazine* No. VII.

The peasants about Lille, being in too great a hurry to enjoy the fruits of their labour, take up their madder before its roots have attained a proper size. The Zealanders let their's grow larger. A medium should however be observed; for the roots which have remained long in the ground, yield less dye than those which have stood only till they have acquired the bigness peculiar to each kind.

This root, which is one of the best ingredients that can be used for dying wools and stuffs, gives them a red colour, which resists, without alteration, the influence of the air, the heat of the sun, and the effects of the ingredients made use of to try colours: it contributes also to make other mixed colours lasting: finally, a method is found out of giving cotton a very pleasing and lasting carnation colour with it. All parts of the root do not yield this red; the dye of some parts fades, other parts are worth nothing at all.

In examining a well-conditioned root of madder with a microscope, under the outer bark, in the flesh may be perceived certain red particles, which certainly yield the colour which the root contains; but there is, besides this, seen a great quantity of woody substance of a fallow colour; and this substance probably impairs the first mentioned colour. According to M. de Tourniere, this fallow colour is not so good a shade as the red; and he imagines that leys, &c. give a brightness to the colours dyed with madder in no other respect than by abstracting this fallow colour. The sun and dews have the same effect on yarn dyed with madder, when it is exposed on the grass.

M. de Tourniere also imagines, that the part which yields the red is, in the green root, dissolved in a mucilaginous juice; for the bark, and the other parts which contain most red, are also most succulent: by drying them in a kiln they lose seven eighths of their weight, and yet the roots are not perfectly dry; for they bend before they break; they are rather bruised than ground by the mill; and this unctuous powder is apt to clot: it is true, that in time they lose this unctuousness, and become dry; but at the same time the quality of the red particles is lowered. These observations are well deserving of attention; for they make it evident to us, that these valuable particles may be impaired by too great a heat: supposing it unctuous, were it too much dried, perhaps water would not dissolve and separate its parts. Finally, these reflections of  
M.



M. de Tourniere agree very well with the experiments of M. d'Ambourney, and convince us that madder-roots may be used green with very considerable advantage. But green madder can never be used, except when the grounds lie convenient for the dyers: thus, when madder is to be carried to any considerable distance, it must of course be dried.

As madder-roots are very apt to ferment when they are bought green, it will be necessary to examine carefully whether they are spotted, or have a musty smell: if the fermentation has given them a black hue, they are by all means to be rejected.

The roots to yield a fine dye, should be fresh: such as are dusty on being broke must therefore be rejected, and with still greater reason those that are rotten and worm-eaten: on the contrary, such ought to be preferred as have a strong smell somewhat like that of liquorice: the ground-madder should be unctuous, and run into clots on being handled.

As madder is sold by weight, it is an advantage to the purchaser to have the roots quite dry; but he should be careful that they have not been kiln-burnt: such as have a strong smell have seldom this defect. Too hasty a drying wrinkles and splits the bark; and, as it then separates very easily from the wood, the most useful part is lost: the bark therefore should be smooth, entire, and adhering to the wood: but we must not confound the true bark with the outer bark, or epidermis, which would only lessen the brightness of the colour.

The largest roots are not always the best: they are frequently yellow, and have but little of that red which alone yields the colour. The very small roots are of little value, as they have too much outer bark, which hurts the colour: but those of the best quality are from the size of a goose-quill to that of the little finger.

In breaking the roots there may be seen, as we have already observed, two substances differing one from the other: that which inclines to a yellow only, hurts the dye: that of the deep red is the part really useful: consequently the highest coloured roots should be preferred.

It would be a useful discovery could there be a method found out of extracting the red particles without any mixture with the fallow or yellow part: we are of opinion, the trials should be made on the green root, that the red particles, which are often in a state of dissolution, may be more easily extracted.

As

As the surest method of knowing the quality of madder is to make a trial of it on some piece of stuff, it will not be amiss, if such as plant much of it, accustom themselves to make this trial, that they may demonstrate to the purchasers the quality of their roots: the following process for doing it, is extracted from the works of M. Hellot.

To dye a pound of woollen-yarn, a bath must be made with five ounces of allum, and one ounce of red tartar, dissolved in a sufficient quantity of water; the wool that is to be dyed must be well-drenched in this liquor: in about a week half a pound of ground madder root is to be thrown into water as hot as you can bear your hand in; and, after having mixed the water and powder together with a stick, the wool is put into it; and the bath must be kept hot for an hour, but not boil; for, if it did, the colour would be dull: but towards the end of the time the bath is made to boil; but the yarn must be instantly taken out.

As very trifling circumstances will affect the beauty of the colour, it will not be amiss to make at the same time two trials with the same yarn; one with the madder that is to be proved, and the other with the fine madder of Zealand, or azala; the beauty of the skains will determine which is the best madder.

**ART. III.** *The method of managing the Royal Flocks of Sheep in Spain.*

SIR,

I Think the following account of managing the Royal flocks, which was sent from Spain to the late Mr. P. Collinson, F. R. S. well deserves a place in the *Farmer's Magazine*.

*Bath, Dec. 11, 1776.*

V A R R O.

There are two kinds of sheep in Spain, namely, the coarse-woolled sheep, which remain all their lives in their native country, and which are housed every night in the winter; and the fine-woolled sheep, which are all their lives in the open air, which travel every summer from the cool mountains of the northern parts of Spain, to feed all the winter on the southern warm plains of Andalusia, Manca, and Estremadura. It has appeared from very accurate calculations, that there are not fewer than five millions of fine-woolled sheep in Spain; and it is reckoned that the wool and flesh of a flock of ten thousand sheep, produce yearly about twenty-four reals a head, which we may suppose to be nearly the value of twelve six-pences sterling.



Special ordinances, privileges, and immunities are issued for the better preservation and government of the sheep, which are under the care of twenty-five thousand men, who, as the Spaniards express it, cloath kings in scarlet, and bishops in purple.

These sheep pass the summer in the cool mountains of Leo, Old Castile, Cuenca, and Arragon. The first thing the shepherd does when the flock returns from the south to its summer-downs, is to give the sheep as much salt as they will eat. Every owner allows his flock of a thousand sheep twenty-five quintals of salt, which the flock eat in about five months: they eat none in their journey, nor in their winter-walk. It is believed, that if they stinted their sheep of this quantity, it would weaken their constitutions, and degrade their wool. The shepherd places fifty or sixty flat stones at about five steps distance from each other; he strews salt upon each stone; he leads the flocks slowly through the stones, and every sheep eats to his liking. What is very remarkable, the sheep never eat nor desire a grain of salt when they are feeding on land which lies on lime-stone: and as the shepherd must not suffer them to be too long without salt, he leads them to a spot of clayey soil, and after a quarter of an hour's feeding there, they march back to the stones and devour the salt. So sensible are they of the difference, that if they meet with a spot of mixed soil, which often happens, they eat salt in proportion.

Towards the latter end of July, the rams are turned in among the tribe of ewes, regulated at six or seven rams for every hundred ewes; and when the shepherd judges that these have been served, he collects the rams into a separate tribe to feed apart. There is also another tribe of rams which feed apart, and never serve the ewes, but are kept solely for their wool and for the butchery: for though the wool and flesh of wethers are finer and more delicate than those of rams, yet the fleece of a ram weighs more than the fleece of a wether, who is likewise shorter-lived than the ram: for these reasons there are but few wethers in the royal flock of Spain. The fleeces of three rams generally weigh twenty-five pounds; and there must be the wool of four wethers, and that of five ewes, to make an equal weight. There is the same disproportion in their lives, which depend on their teeth: for when these fail, they cannot bite the grass, and are of course condemned to the knife. The ewe's teeth begin to fail after five years of age, the wethers after six, and those of the robust ram not till towards eight.

At the latter end of September they put on the redding or ocre, which is a ponderous iron earth, common in Spain: the shepherd dissolves it in water, and daubs the backs of the sheep with it from the neck to the rump. It is an old custom. Some say it mixes with the grease of the wool, and so becomes a varnish impenetrable to the rain and cold; others, that it's weight keeps the wool down, and thereby hinders it from growing long and coarse; and others again, that it acts as an absorbent earth, and receives part of the transpiration, which would foul the wool, and render it harsh.

Likewise in the latter end of September, the sheep begin their march towards the low plains. Their itinerary is marked out by immemorial custom, and by ordinances. Their journeys are often so long, that the poor creatures go six or seven leagues a day to get into open wilds, where the shepherd walks slow, to let them feed at their ease and rest: but they never stop; they have no day of repose; they march at least two leagues a day, constantly following the shepherd, till they get to their journey's end. From the territory called the Montana, at the extremity of Old Castile, from whence they set out to Estremadura, is an hundred and fifty leagues, which they march in less than forty days. The chief shepherd's first care is to see that each tribe is conducted to the same district it fed in the year before, and where the sheep were yeaned, which they think prevents a variation in the wool; though this requires but little care; for it is a known truth, that the sheep would go to that very spot of their own accord. His next care is to fix the toils (in England, hurdles) where the sheep pass the night, lest they should stray, and fall into the jaws of wolves.

Next comes the time when the ewes begin to drop their lambs, which is the most toilsome and most solicitous part of the pastoral life. The shepherds first cull out the barren from the pregnant ewes, which last are conducted to the best shelter, and the others to the bleakest part of the district. As the lambs fall, they are led apart with their dams to another comfortable spot. A third division is made of the last-yeaned lambs, for whom was allotted from the beginning, the most fertile part, the best soil, and the sweetest grass of the down, in order that they may become as vigorous as the first-yeaned; for they must all march on the same day towards their summer quarters. The shepherds perform four operations upon all the lambs about the same time in the month of March; viz. they cut off their tails five inches below the rump, for cleanliness;



liness; they mark them on the nose with a hot iron; they saw off part of their horns, that the rams may neither hurt one another, nor the ewes; and they emasculate the lambs intended for bell-wethers to walk at the head of the tribe.

As soon as April comes, the sheep express, by various uneasy motions, a strong desire to return to their summer habitations. The shepherds must then exert all their vigilance to prevent their escaping; for it has often happened, that a tribe has stolen a forced march of three or four leagues upon a drowsy shepherd; and there are many examples of three or four strayed sheep walking a hundred leagues to the very place they fed on the year before.

In the summer sheep-walks I learnt that the three following opinions should be ranked among vulgar errors:

1. That salt-springs are not found in the high mountains, but in the low hills and plains only.—The whole territory of Molina is full of salt-springs, and there is a copious one rising out of land higher than the source of the Tagus, and not far from it; which is one of the highest lands in all the inward parts of Spain.

2. That metallic vapours destroy vegetation; and that no rocks nor mountains pregnant with rich veins of ore are covered with rich vegetable soils. There are many iron, copper, lead, and pure pyritous ores in these sheep-walks, where grow the same plants, and the same sweet grass, as in the other parts.

3. That sheep eat and love aromatic plants; and that the flesh of those that feed on the hills where sweet herbs abound has a fine taste.—I have observed, that when the shepherd made a pause, and let sheep feed at their will, they sought only for fine grass, and never touched any aromatic plant: that when the creeping *serpillum* was interwoven with the grass, they industriously nosed it aside to bite a blade of grass; and that this trouble soon made them seek out a pure gramineous spot. I observed too, when the shepherd perceived a threatening cloud, and gave a signal to the dogs to collect the tribe and then go behind it, walking apace himself to lead the sheep to shelter, that, as they had no time to stoop, they would take a snap of *stæchas*, rosemary, or any other shrub in their way; for sheep will eat any thing when they are hungry, or when they walk fast. I saw them greedily devour henbane, hemlock, glaucium, and other nauseous weeds, upon their issue out of the sheering-house.

The shepherd's chief care now is, not to suffer the sheep to go out of their toils till the morning-sun has exhaled the dew

dew of a white frost, and never to let them approach a rivulet or pond after a shower of hail; for if they should eat the dewy grass, or drink hail-water, the whole tribe would become melancholy, lose all appetite, pine away and die; of which there have been frequent instances.

The sheep of Andalusia, which never travel, have coarse, long, hairy wool. I saw some in Estremadura whose wool trailed on the ground. The itinerant sheep have short, silky, white wool; the fineness of which is owing to the animal's passing its life in the open air, of equal temperature; for it is not colder in Andalusia or Estremadura in the winter, than it is in the Montana or Molina in summer. Constant heat, or constant cold, with housing, are the causes of coarse, speckled, black wool: and I do believe, from a few experiments and long observation, that if the fine-woolled sheep stayed at home in the winter, their wool would become coarse in a few generations; and on the other hand, that if the coarse-woolled sheep travelled from climate to climate, and lived in the free air, their wool would become fine, short, and silky likewise in a few generations.

All the animals that I know of, who live in the open air, constantly keep up to the colour of their furs. There are the most beautiful brindled sheep in the world among the coarse-woolled sheep of Spain. I never saw one among the fine-woolled flocks: the free but less-abundant perspiration in the open air, is swept away as fast as it flows; whereas it is greatly increased by the excessive heat of numbers of sheep housed all night in a narrow place. It fouls the wool, makes it hairy, and changes its colour.—The swine of Spain, who pass their lives in the woods, are all of one colour, as the wild boars. They have fine, silky, curled bristles. Never did a Spanish hog's bristle pierce a shoe. What a quantity of dander is daily scoured from the glands of a stabled horse; the curry-comb and hair-cloth ever in hand! How clean is the skin of a horse that lives in the open air!

The shepherds begin to shear their sheep on the first of May, provided the weather be fair: for if the wool were not quite dry, the fleeces, which are close piled one upon another, would rot. It is for this reason that their sheering-houses are surprizingly spacious. I saw some large enough to contain twenty thousand sheep in bad weather, and which cost above five thousand pounds sterling. Besides, the ewes are creatures of such tender constitutions, that if they were exposed immediately after sheering, they would all perish.

An



An hundred and twenty-five sheermen are employed to shear a flock of ten thousand sheep. One man sheers twelve ewes a day, and but eight rams. The reason of this difference is, not only because the rams have larger bodies, stronger, and more wool; but also because the sheermen dare not tie their feet, as they do those of the unresisting ewes. Experience having taught, that the bold rebellious ram will struggle, even to suffocation, when held captive under the sheers: they gently lay him down, stroke his belly, and beguile him out of his fleece. A certain number of sheep are led into the great shelter-house, which is a parallelogram of four or five hundred feet long and an hundred wide, where they remain all night, crowded as close together as the shepherd can keep them, that they may sweat plentifully, which, say they, softens the wool for the sheers, and oils their edges. They are led by degrees, in the morning, into the spacious sheering-hall, which joins the sweating-room. The shepherd carries them off as fast as they are shorn, to be marked with tar: and as this operation is necessarily performed upon only one at a time, it gives a fair opportunity to the shepherds to cull out for the butchery all the sheep of the flock who have out-lived their teeth. The sheered sheep go to the fields to feed a little, if it be fine weather, and they return in the evening to pass the night in the yard before the house, within the shelter of the walls; but if it be cold and cloudy, they go into the house, and are thus brought by degrees to bear the open air.

[How far a similar practice may be advantageously introduced in either Wales or Scotland, we shall submit to the practical Farmer.]

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#### ART. IV.—*Description and Cure of Worms in Horses.*

**A**MONG the animals that are useful to mankind, the horse is certainly entitled to the first rank; and yet this animal, considerable as it is, and contrived by its figure and beautiful proportion to afford us pleasure, was not given to man only: there is a species of fly, whose right in this creature may be looked upon as still better founded than our's.

If the horse be useful to us, he is absolutely necessary to this fly; and the same Being that formed the horse, formed also this fly, which depends wholly on the horse for its preservation and continuance. The flies we are speaking of, like those of the other species, receive their first life and growth in the form of worms: but these are worms which can be produced and  
nourished

nourished only in the intestines of a horse. It is there alone they can enjoy the proper temperature of heat, and receive the nourishment necessary for them.

Besides the long, and sometimes very long, worms which have been observed in the bodies of horses, there have been seen also in them short ones. All authors, both ancient and modern, who have treated of the diseases of horses, have taken notice of these short worms; but M. Valisnieri is, I believe, the first who has traced them to the last stage of their transformation, and seen them change into a hairy kind of fly, like the drone.

The flies from which these bots are produced, inhabit the country, and do not come near houses, at least not near those of great towns; and therefore horses are never liable to have these short worms in their bodies if they have been kept within doors, especially in a town, during the summer and autumn. It is in the former of these seasons, and perhaps too in the beginning of the latter, that the females of these flies apply themselves to the anus of horses, and endeavour to gain admittance, in order there to deposit their eggs, or perhaps their worms.

The precise instant of their entrance will scarce admit of an eye-witness, but by the meekest chance: yet M. Valisnieri says, that Dr. Gaspari had beheld this very uncommon sight. The Doctor was one day looking at his mares in a field, and observed, that from being perfectly quiet, they of a sudden became very restless, and ran about in great agitation, prancing, plunging, and kicking, with violent motions of their tails. He concluded, that these extraordinary effects were produced by some fly buzzing about them, and endeavouring to settle upon the anus of one of them; but the fly not being able to succeed, he observed it go off, with less noise than before, towards a mare that was feeding at a distance from the rest; and now the fly taking a more effectual method to compass its design, passed under the tail of the mare, and so made its way to the anus.

Here, at first, it occasioned only an itching, by which the intestine was protruded with an increased aperture of the anus; the fly taking advantage of this, penetrated farther, and lodged itself in the folds of the intestine; this done, it was a situation proper for laying its eggs. Soon after this, the mare became very violent, running about, prancing, and kicking, and throwing herself on the ground; in short, was not quiet, nor returned to feeding, till after a quarter of an hour.

The



The fly then, we see, can find means of depositing it's eggs, or perhaps its worms, in the fundament of the horse; which once effected, it has done all that is necessary for them.

If these worms are not already hatched when first deposited in the horse, but are then only eggs, it will not be long before they are hatched, from the nutritive heat they there receive.

These worms soon make their way into the intestines of the horse; they occupy such parts of this region, as are to them most convenient, and sometimes, as we shall soon see, penetrate even to the stomach. All the hazard they appear to be exposed to is, that of being carried away from the places they have fixed on, by the excrement, which may seem likely to drive all before it. But nature has provided for all things; and when we shall have farther described these worms, it will be seen, that they are able to maintain their situation, and to remain in the body of the horse as long as they please.

There is a time when these worms are of themselves desirous to leave this their habitation; it being no longer convenient to them after the purposes of their growth are answered. Their transformation to a fly must be performed out of the horse's body; and accordingly, when the time of their transformation draws near, they approach towards the anus of the horse, and then leave him of their own accord, or with the excrement, with which they suffer themselves to be carried along.

The figure of these worms affords at first sight nothing remarkable, but they appear, like many other worms of the class, that change into flies with two wings, and like the greatest part of the worms of that class, they are provided with a sort of scaly claws, with which they draw themselves forward.

A difference in colour may be observed between those that are taken by force from the intestine of the horse, and those which come away of their own accord; some are greenish, some yellowish, and others nearly brown: these last are nearest to, and the greenish ones the farthest from the time of their transformation.

If M. Valisnieri and myself have rightly observed the position of their claws, some of them differ from others in this respect; but they are perfectly similar in every other particular, and change into flies so nearly alike, that I am convinced they are of the same kind and origin.

However

However this may be, the worms we now are speaking of have two unequal claws; and since I have been acquainted with the nature and use of those claws, it has seemed to me easy to conceive how they may remain in the intestines of a horse, in opposition to all efforts of the excrements to force them out. One that I was handling and examining, fastened upon my finger in such a manner, that I found great difficulty to get it off. These claws are a sort of anchors, differently indeed disposed from the wings of common anchors, but contrived to produce the same effect.

Besides these two claws, nature hath given to each of these worms a very great number of triangular spikes, or bristles, amply sufficient to arm against the coats of the intestines, and to resist the force employed to drive them towards the anus, provided the head be directed towards the stomach of the horse.

It will undoubtedly be asked, whether these worms are not dangerous to horses? The mares which afforded me, for several years, those on which I made my observations, did not appear to be less in health than those which had none: but it may sometimes happen, that they are in so great a quantity in the body of a horse, as to prove fatal to him. M. Valisnieri supposes these worms to have been the cause of an epidemical disease which destroyed a great many horses about Verona and Mantua in the year 1713; and the observations communicated to him by Dr. Gaspari, sufficiently confirm his supposition.

This gentleman, upon dissecting some horses that died of this distemper, found in their stomachs a surprizing quantity of short worms; to give us some idea of which, he compares them to the kernels of a pomegranate opened: each of these worms, by gnawing on the coat of the stomach, had made for itself a kind of cell therein, and each of these cavities would easily contain a grain of Indian wheat. One may readily imagine to how wretched a condition the stomach must be reduced by this means: the outer membranes were inflamed, and the inner ones ulcerated, and corrupted. A very small quantity of these worms were found in the small intestines, and only a few in the larger, to which last they were found affixed, but had corroded them.

It is, perhaps, only when these worms are in great numbers, and incommode each other in the intestines of the horse, that they make their way towards the stomach; and indeed a very few flies must be sufficient to overstock the inside of a



horse, provided they should deposit all their eggs, and these be animated; M. Valisnieri having counted upwards of seven hundred eggs in the body of one single fly.

When one of these worms has quitted the anus of the horse, it falls on the ground, and immediately seeks out for some place of safety to which it may retire, to prepare for the last stage of its transformation, by which it is to become a fly. Its skin now hardens and thickens by degrees, and at length forms a solid shell or cocoon the shape of which scarcely differs from that of the worm. It is first of a pale red colour, which changes into chestnut, and at length, by the addition of gradual and successive shades of brown, the shell is rendered black. Before the worm passes into a nymph, it is of the form of an oblong ball; and it remains in this shape much longer than worms of the flesh-fly kind. I have met with some that have not shewn the smallest traces of the legs, wings, and head of the nymph, even at the end of five or six days; and from thence I first learnt that these worms do not become nymphs immediately upon their first change, but that, in order to become flies, they must undergo one change more than caterpillars generally do, to become butterflies.

Mr. Osmer says, that the following medicine will kill these, and indeed, all sorts of worms in horses.

"Take of new milk, one quart: honey, half a pound; give this to the horse in a morning; let him fast after it an hour and a half; then give him a pint of strong brine, more or less, according to the size and strength of the horse, and let him fast another hour; repeat this three or four successive mornings."

He thinks it very possible that horses may occasionally die of spasms and convulsions, when these *Bots* (for that is the name which our farriers give to these short worms) lodge in and corrode the stomach and bowels, instead of coming away by the anus; and says, that no medicines ought to be esteemed a remedy for the *Bots* till we see them brought away dead by its effects. If these insects did not generally make their escape by some means unknown to us, horses would die much oftener of the worms or bots, than they do.

ART. V. *Diseases of Cows.* Continued. By C. Williamson.  
*Bails on the Flesh or Skin.*

**C**OWS are very subject to boils and blains, which are in general confined to the skin, and owe their rise to flies of a venomous nature piercing the skin, with their sharp pro-

proboscis, and laying their eggs, which are there nourished, and produce maggots of their peculiar kind. The little organization of the part will render the cure in general tedious, especially if we begin at the first sight to make our regular stages and attacks, or cure them *secundum artem*; as for instance, with poultices and ointments. A maxim to be inculcated among farriers, cow-leeches, and, I was going to say, to Men-Doctors, and Women-Doctors too is, to leave nature to do her own business, and when she wants help, to assist her, and only when she wants.

I have seen my cow-boy squeeze out the worm often, and, without any application, nothing amiss has happened. Suppose it has already passed the favourable stage and put on the tremendous, and a complete abscess is already formed, a puncture with a lancet (the least dreadful, the least painful, and the only useful instrument in this case) lets out the matter, and the part will soon get into the state of health from which it originally erred. Suppose again, that the boil should be degenerated into a sore, here perhaps difficulties may arise; the difficulty of making any thing of a plaister adhere, the teasing of the animal from flies, calls for our utmost care. I would recommend the application of the Vegeto-mineral water, [*a receipt for which will be given in our next,*] by way of wash, twice a day, which will clean and heal the wound, and a diachylon plaister laid over the part where it can.

[*To be continued.*]

#### ART. VI. On the difference between Trees and Shrubs.

Mr. SYLVAN,

I Was greatly surprized to hear some time ago that there is no characteristic yet known that will infallibly distinguish a Tree from a Shrub. It seemed astonishing, when the difference in appearance is so great; but as I was not able to answer the arguments which my friend used, I shall esteem your opinion, or the opinion of your ingenious correspondents, a particular favour.

Dec. 25th, 1776.

A Young Botanist.

[We cannot perhaps more oblige our readers, than by giving the following very sensible observations on this subject, from Mr. Milne's Botanical Dictionary.

"A tree is a perennial plant, which rises to a very great height, with a simple, woody, and durable stem, or trunk. By these characters, are trees, with great accuracy, distinguished from herbs,

Z z z

whose



whose stems are frequently compound, herbaceous, or succulent, and die down to the root every year.

All trees too are perennial; as is evident from the characters just enumerated: many herbs are either annual, that is, of one year's duration; or biennial, of two; those only are perennial, whose roots, not perishing with the stems, continue a long time under the surface of the ground, and put forth a new stem every year.

Upon these obvious and striking differences was founded the very ancient division of vegetables, into herbs and trees; though, perhaps, that distinction was principally suggested by the difference of size and duration of the plants in question. Be that as it may, the division has been esteemed so natural and spontaneous, that, from the time of Aristotle and Theophrastus to the present age, it has obtained a principal place in almost every system, except that of Linnæus, which mixes herbs and trees promiscuously together.

Among the celebrated names in botany, which have retained the ancient distinction, are numbered Cæsalpinus, the father of systematic botany; Morison, Hermannus, Christopher Knaut, Boerhaave, Ray, Pontedera, and Tournefort. The latter, rather than omit a division, through custom become necessary, chose to hurt the elegance and uniformity of his plan; and, in fact, spun out into twenty-two classes, what, without such division, might have been easily comprised in seventeen.

On the opposite side are ranged Rivinus, Christian Knaut, Linnæus, Ludwig; and other names of less note.

The distinction into trees and shrubs, though of equal antiquity, is neither so obvious, nor are its limits so accurately ascertained. In fact, of the numerous characteristic differences which have been suggested by botanical writers, not one is perfectly satisfactory. To say with Tournefort, that trees are universally taller than shrubs, is, in effect, saying nothing, unless a certain fixed, immutable standard were previously established. Besides, every thing respecting dimension is so variable, in its nature, and depends so much upon difference of climate, soil, and management, that were a standard of this kind attempted to be established, the greatest confusion would ensue; and the same plant in different countries, and even in opposite soils in the same country, would receive different appellations, according as it exceeded, or came short of, the given standard.

Thus the *vicinus*, or palma-christi; the dwarf rosebay, *rhododendron*; the strawberry-tree, *arbutus*; and several others, which grow to the size of very large trees in warm climates, are, in this country, equalled, and even exceeded in height by many of our smallest shrubs.

The difference of soil and culture in the same climate, produces a like diversity in dimension. Thus, to take an example from herbaceous vegetables, the marigold, which, in a fat and moist earth, rises two feet high, scarce exceeds the same number of inches in a dry and gravelly soil.

Nature,

Nature, says Linnæus, has put no limits between trees and shrubs. Where then are we to search for the foundation of this distinction? Not in the difference of size and height, for nothing can be more fallible. Either, he continues, there are no limits at all, or they are to be found in the buds; and the plants are stiled trees, when their stems come up with buds; shrubs, when they arise without buds: but this distinction is sufficiently confuted by its author, who immediately subjoins, that there are seldom any buds upon the very large trees in India; which must, therefore, notwithstanding their great height, according to this definition, be reckoned shrubs.

The learned Dr. Alston, in his *Tyrocinium Botanicum*, seems to consider the distinction into trees and shrubs, as a true natural distinction, and endeavours to trace its foundation in the internal structure of the plants themselves. All trees, says he, whether they bear buds or not, are covered with the two barks, the outer and inner, called by botanists, *cortex* and *liber*. Shrubs differ from herbaceous vegetables, in the duration of their stems; from trees, in the nature of their covering, which is not a bark, but a cuticle, or simple skin.

This thought is ingenious; but the fact on which it depends, is not sufficiently ascertained.

The farther distinction into shrubs and under-shrubs, which is exceedingly arbitrary and indeterminate, was first suggested by Clusius, in a work entitled, *Rariores & Exoticæ Plantæ*, published in 1576; and afterwards adopted by Cæsalpinus, and others."]

ART. VII. To variegate white Flowers with fine red stripes:

TAKE of the juice of the berries of the *Piercea*, or *Solanoides*, (an exotic plant commonly kept in stoves) and mix it with common water, putting it into a phial, shaking it well together for some time till the water is thoroughly tinged; then cut off the flowers that are white and just fully blown, and place their stalks into the phial, and in one night the flowers will be finely variegated with red. This experiment succeeds most admirably on the *Tuberoſe* and the double white *Narcissus*; the juice of the berries will stain paper and linen of a bright red colour.

The title of *Solanoides* was given to this plant in the Memoirs of the Academy of Sciences for the year 1706; and Mr. Miller afterwards inscribed this genus of plants to his Grace Hugh Percy Duke of Northumberland.



ART. VIII. *A Remedy for the Burning in a Cow.*

Mr. SYLVAN,

THERE is a disorder in cows which is called *Burning*, much like the venereal disorder in mankind. I have looked for an account of it, and to see if there was any cure for it in the books that treat of the management and disorders of cattle; but I never could find any account whatever, nor do I know that it is so much as mentioned by them. Most of the books appear to be written by people who had no experience themselves, and so they have collected receipts and then published them. What I have said of this disorder, is a sufficient description for Farmers, or the people who deal in cattle, and as I have cured many by the following means, I should wish to see it in the *Farmer's Magazine*.

"Take a stick and tie some rags round one end, and having dipped that end well in some good old crab verjuice, a little warmed thrust it up the vent a little way, rubbing the parts well, but very gently; repeat it as you see occasion. and if the disorder is not bad, it will soon cure it. But sometimes this alone will not do; I then take from one to two pennyworth of *asafoetida*, according to the age and size of the cow, and give it in some warm ale; this, with applying the verjuice, has never failed to complete the cure."

Dec. 6th, 1776.

*A West-Country Farmer.*ART. IX. *Rules to preserve Cattle from the most common Disorders to which they are often subject.*

THEIR victuals must be given them in proper time, and in the most regular manner, and great care must be taken that nothing of an infectious or noxious quality is mixed with it. Hogs, ducks, and in short, all sorts of poultry should be kept as far from them as possible, for the dung of those creatures is at all times very offensive; and if any parts of it are scattered in their provender, it will in the course of two or three days make them very sick. Rub them down with fresh straw at least once in two days, for that serves to keep their bodies open, by promoting perspiration; let them be blooded twice in the year, nearly in spring and autumn, and this practice will be necessary, although there appears no reason for it, for it is to be used as a preventative instead of a cure. After they have been blooded, the most proper drink to be given them will be water, milk warm, in which must be infused a couple

couple of heads of garlic ; and they must have it thrice a day for three days together. To know whether the beast is sick, or in health, visit him early in the morning, and observe carefully his nose ; if pearly drops like dew fall from it, then he is well, but if it is hard and dry, you must continue giving him the drink till he is perfectly recovered.

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ART. X. *On the benefit of laying Straw in the Sheep-fold in Winter.*

Mr. SYLVAN,

I See some Farmers begin to fold their pasture lands as soon as they have done folding for wheat. At this season neither the sun nor wind either dry or waste the dung, as in the summer. It is commonly said, that the sheep kill the moss at this time, and by their tread prevent more from growing. But as the ground is now cold, some Farmers lay a little straw in the fold, which keeps the bodies of the sheep warmer, and adds to the virtue and quantity of the manure. This is not generally practised, and therefore I send it for your Magazine, that it may be more universally known.

V I A T O R.

[We recommend this to the notice of every Farmer, and though the hint is not entirely new, yet we think it has been greatly neglected or overlooked ; it is so obvious and striking, that we need not say any thing more of its utility in pasture (and we may add in arable) land.

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ART. XI. *A quick method of raising Oak Plants.*

THE very great scarcity of Oak Timber in this kingdom, occasioned by the continual falls, and little regard paid to the planting that valuable wood, so essentially necessary for the support of our naval power, induces me to offer an hint, with respect to the management of young Oak Plants, that may not only be of use to the nursery-man, but to every gentleman who wishes to improve his own estate, and at the same time do the public an acceptable service.

In the year 1771, a quantity of Acorns were sowed in a seed bed, and the plants were suffered to remain there two years ; they were then taken up carefully, and the tap-root shortened, and removed to the nursery, until ground was trenched and prepared for their reception ; in 1774, they were



were planted out, with a number of other trees; and in the winter of 1775, having taken good root, and appearing healthy, they were cut down within two inches of the ground; the last summer, a number of them made vigorous shoots; and by only suffering one shoot to remain on each plant, and taking off from that shoot, through the summer, all the side branches and buds as they appeared, the shoots of four of them now measure as under, in height:

| Feet. | Inches. |  | Feet. | Inches. |
|-------|---------|--|-------|---------|
| 7     | 3       |  | 6     | 3       |
| 6     | 8       |  | 5     | 10      |

And sufficiently strong to support themselves without stakes.

*A Friend to Planting.*

ART. XII. *The late Dr. Halley's Method of Curing a Cold.*

**W**HEN the Doctor caught a cold, and had a slight fever, he always took half an ounce of Jesuit's Bark in water-gruel, at one dose. He called it his Chocolate, and it always cured him.

ART. XIII. *To Cure Warts.*

Mr. SYLVAN,

**S**OME years ago an acquaintance of mine was much famed for his nostrum in curing Warts, which he pretended to do by giving the person some grains of musty wheat to keep.

He directed them to rub their Warts very well with sweet oil, and then with common salt, as often as they could conveniently: this generally destroyed the Warts; for as to the wheat, it was only a pretended charm.

*Dec. 24th, 1776.*

W. M.

ART. XIV. *Receipt for Cracks in the Glazing of China Plates or Dishes.*

**R**UB the China well with butter, and hold it before the fire till it is quite hot, and the cracks will be immediately closed.

L U C I N D A.

*From*

*From the PHILOSOPHICAL TRANSACTIONS.*

*The Third Journey from the Cape Town into the Southern Parts of Africa; undertaken for the Discovery of new Plants, towards the Improvement of the Royal Botanical Gardens at Kew. By Mr. Francis Masson, one of his Majesty's Gardeners.*

SEPT. 26, 1774, I set out from the Cape Town, but by the badness of the weather was obliged to stay all night at the Salt River, about two miles from the town, where there is a wine house. I had in company only two servants, for driving my waggon and taking care of my oxen and horse.

27th, The morning being fine, we travelled through the great sandy plain (lying between the Cape town and Hottentots Holland mountains) great part of which was under water. In the afternoon we had heavy rain, when we crossed the Eerste Rivier, and lodged all night at a farmhouse under those mountains, where we found the whole country enamelled with flowers.

29th, 30th, The weather began to grow more pleasant, the sun shining out with force; but sudden heavy showers much retarded our journey, confining us to short stages along the foot of the Stellebosch mountains.

Oct. 1st, To-Draaken Steen.

2d, To Paarle Kerk, where I was joined by Dr. THUNBERG.

4th, We went up to the top of the Paarle mountain, where we added greatly to our collection.

5th, To Paarde Berg (Horse mountain.)

6th, We mounted to the top of Paarde Berg, where we found a treasure of new plants, which we had not seen before, and on the top had an extensive view of the adjacent country, which is level, and has but a barren appearance; yet contains several rich plantations, producing abundance of corn and wine; and the peasants live luxuriously. Their plantations lie all around the foot of this mountain, which yields a number of fine rivulets, without which this country would be uninhabited.

7th, We directed our course northward, through a level country covered with low shrubs; but it being now spring, it was every where decorated with flowers of the greatest beauty, every hour's march producing new charms. At night we arrived at the foot of a mountain called Van Riebeck's Casteel. There we lodged at Mr. DRAYER's, a wealthy farmer, who treated us in the most friendly manner, and begged that we would favour him with our company for a month, which should not cost us a farthing.

9th, We went up to the top of Riebeck's Casteel, which is very high, and on the north side inaccessible. It is about four or five miles long, and very narrow on the top; we collected here many remarkable new plants, in particular a hyacinth, with flowers of a pale gold colour.

10th, We came to the Berg Rivier, which was then impassable by reason of the late rain.

12th, With some difficulty we transported, in a large boat, our waggon and baggage to the opposite side, and afterwards obliged our oxen to swim over. From thence we proceeded through a barren uninhabited country; consequently were obliged to content ourselves with the shelter of a large *leucodendron*, that protected us from the S. E. wind, which at this season sometimes blows cold.



13th, We arrived at the foot of a mountain called Piquet Berg, lying direct north from the Cape town, being a particular place of observation of the Abbé DELA CAILLE, when he measured a degree on the meridian in the year 1750. All around the mountain the soil is sandy, but furnished with a great variety of beautiful plants, especially *aspalathi*.

15th, We mounted the Piquet Berg, which is very high, but easy of ascent. On the top are fine plains covered with excellent verdure, which are of great service to the peasants, who send up their oxen during the summer season. We saw here several zebras and two colts, but they were very shy.

18th, We came to Verloore Valley, which begins on the N. W. side of the Piquet Berg. It is a narrow extent of marshy ground, inclosed by hills on each side, with a small river, frequented by a variety of water fowl, which afforded good sport. Towards the sea the river increases in breadth, in many places upwards of a mile, and is very deep; there we saw hundreds of pelicans and wild geese, which kept the middle of the river; but we shot several wild ducks and water hens, which swam among the reeds along the side of it.

22d, We arrived at the mouth of the Verloore river, where it is discharged into the sea; but found the coast barren, consisting of sandy hills, so loose that our horses were sometimes up to their bellies, which made our journey very fatiguing.

23d, We left the shore on our left hand, and directed our course northward towards the mouth of Olyfant's Rivier. The heat became now great, which the whiteness of the sand still increased, and obliged us to travel late in the evening and early in the morning, resting in the middle of the day. It was also not a little fatiguing to travel here on horseback, the mole-casts being so deep that the horses fell up to their shoulders every six or seven minutes. This animal is by the Dutch called Land-moll, but differs so much from the European mole, that it does not belong to the same class of animals, but is entirely new. It feeds upon the roots of *ixia*, *gladioli*, *antholixæ*, and *irides*, often grows to the size of a rabbit, and by some is esteemed good eating. There is another species of the animal, called by the Dutch Bles-moll, which inhabits the hard ground; but seldom exceeds the size of the common European mole. This country is furnished with a great variety of elegant shrubs, viz. *enistæ*, *partia*, and *aspalathi*. At night we came to Lange Valley, where we took up our lodging in a desolate place, the inhabitants being all removed; for this is only their winter residence, when the water is fresh, which had now began to be brackish.

24th, We set out early in the morning, expecting to find a river or fountain, where we could rest during the heat of the day; but, to our no small disappointment, we travelled till noon without finding any: our oxen were so hot that their tongues hung out of their mouths. About one o'clock we saw a lake of water at some distance, but on our arrival our horses refused to drink: we dismounted, and found it to be a salt lake. In the evening we came to a fountain of excellent water, where we spent the night with great comfort. Next morning we were visited by a peasant going to the Cape; who told us, he had been attacked in the night by a lion, which made a spring at his Hottentot who led the oxen, but happily missed him. He admonished us to be expeditious, and get to some habitation that night, otherwise we might expect a visit from him.

25th, At noon we proceeded on our journey, the road continuing still very bad; and in passing along, we saw the prints of the lion's feet in  
severa

several places. At night we came to Olyfant's Rivier, where we found a Dutch habitation; there we rested several days, being treated with great hospitality. This country abounds with game. They have two kinds of partridges, which are exceedingly plentiful and easy to shoot; and a person cannot walk ten paces without raising a brace of quails. Their hares are of an extraordinary size, but differ little otherwise in character from those of Europe. We hunted every day, and by the assistance of the peasant's son, who was an excellent marksman, never failed to come home laden. The sterile appearance of this country exceeds all imagination: wherever one casts his eyes, he sees nothing but naked hills, without a blade of grass, only small succulent plants. The soil is a red binding loam, intermixed with a kind of rotten *schistus* or slate. Next morning we traversed the adjacent hills, and were surprised to find all the plants entirely new to us. They were the greatest part of the succulent kind; viz. *mesembryanthemum*, *euphorbia*, and *slapelia*, of which we found many new species. The peasant told us, that in winter the hills were painted with all kinds of colours; and said, it grieved him often, that no person of knowledge in botany had ever had an opportunity of seeing his country in the flowery season. We expressed great surprize at seeing such large flocks of sheep as he was possessed of subsist in such a desert: on which he observed, that their sheep never ate any grass, only succulent plants, and all sorts of shrubs; many of which were aromatic, and gave their flesh an excellent flavour. Next day I passed through a large flock of sheep, where I saw them devouring the juicy leaves of *mesembryanthemum*, *slapelia*, *cotelydon*, and even the green seed vessels of *euphorbia*; by eating such plants they require little water, especially in winter.

30th, We were employed in unloading our waggons, and transporting our baggage across the river in a small boat; and afterwards drove over our oxen with the empty waggons, which were almost overset in the middle of it. The river is about forty or fifty yards broad, and in some places very deep. The borders are covered with the *mimosa nilotica*, which forms a thick impenetrable wood. We were about a day's journey from the mouth of this river, where are still some elephants remaining, the country being very wild and uninhabited. We had now the great Carro to pass; a desert of three days journey, where no fresh water, and only three pits of brackish water, enough to preserve the lives of our cattle, were to be found. These pits are at some distance from the road, which makes it very difficult for strangers to find them. But while we were seriously considering these approaching difficulties, thinking, if we should miss the pits, we should probably perish in this inhospitable desert; to our great joy we were overtaken by a Boor, with his wife and children, who were going the same road; but he having a fresh team of horses, we could not keep up with him. However, he directed us in the way; and told us, he would tie a piece of white cloth on a branch of a tree, where he knew there was water; but desired us not to go to those places without fire-arms, as there was commonly a lion lurking near them; who, knowing that all the animals must come there to drink, he seldom failed to seize his prey. At night we overtook our fellow traveller, who had taken up his lodging on a bare eminence, without a bush to shelter him; though at some distance there was a small wood of *mimosa* trees along the banks of a river that was then dry, which we thought much preferable to his situation. But he told us, it was much more dangerous on account of wild beasts; and that there often fell such sud-



den showers in the mountains, that people who had lodged by the rivers, had, with their waggons and oxen, been carried away in the night while they lay asleep. He left us early next morning, but we were obliged to stay till noon to let our oxen feed, and then went on until sun-set; but unhappily found no water, which mortified us much, having a long day's journey to the next watering place. All next day we travelled over this thirsty land, where we suffered from the heat of the sun and want of water; but our sufferings were still aggravated when we thought on our poor animals, who often lay down in the yoke during the heat of the day. This desert is extensive; being bounded on the N. and N. E. by a chain of flat mountains, called Bockland's Bergen, (Bockland's Mountains) and on the W. and N. W. by the Atlantic Ocean. It is uninhabitable in summer; but in winter, or during the rainy season, the Bockland people come down with their herds, which by feeding upon succulent shrubs, that are very salt, in a short time grow remarkably fat. There still remains a great treasure of new plants in this country, especially of the succulent kind, which cannot be preserved but by having good figures and descriptions of them made on the spot; which might be easily accomplished in the rainy season, when there is plenty of fresh water every where. But at this season of the year, we were obliged to make the greatest expedition to save the lives of our cattle, only collecting what we found growing along the road side, which amounted to above 100 plants, never before described. Towards the evening we arrived at the foot of Bockland's Berg, where we passed the night by a penurious stream of fresh water, but which yielded us no small comfort.

Nov. 2d, The peasant who had passed us in the Carro, as soon as he arrived at home, immediately sent two team of fresh oxen to help us up the mountain, our own being much weakened by the heavy roads. In the cool of the afternoon we ascended by a winding road, which was so very rugged and steep, that it took five Hottentots with ropes made fast to the waggon, to keep it from overturning. The face of the mountain consists entirely of scattered rock, being accessible only in this place, and is overgrown with a great variety of large woody plants, most of which were new. We found a new species of aloe here, called by the Dutch Koker Boom, of which the Hottentots make quivers to hold their arrows; it being of a soft fibrous consistence, which they can easily cut out, leaving only the bark, which is hard and durable. These trees were about twelve feet high, with a straight smooth trunk, about ten inches or a foot diameter, and five or six feet in length, which divided into two branches; and those were again sub-divided into two more branches, which terminated in a bunch of thick succulent leaves, surrounding the stem, spear-shaped; entire, without spines, and hanging down like the leaves of *dracena draco*. We did not see it in flower, but by the above character took it for a new species, and called it *aloe dichotoma*. We gained the top of the mountain, and entered into Bockland, which is extended along the summit for many miles. It is pretty level, but very rocky. We enjoyed a pure cool air, it being several degrees colder here than in the Carro. Bockland lies nearly in a northern direction from the Cape, and at the distance of about 220 miles. It was called Bockland, on account of the amazing quantity of Spring bucks which were formerly found there; but since this country has been inhabited by Europeans, it has ceased to be the settled residence; at least, the number of those which constantly remain in it is very inconsiderable. It generally happens, however, once in seven or eight years, that flocks of many

many hundred thousands come out of the interior parts of Africa, spreading over the whole country, and not leaving a blade of grass or a shrub. The peasants are then obliged to guard their corn fields night and day, otherwise those animals would cause a famine wherever they passed. It seems probable, by the accounts of these extraordinary emigrations, that their natural habitation is in the interior parts of Terra de Natal; and that they are forced southwards by dry seasons, which happen sometimes in those regions to such a degree, that not a drop of rain will fall for two or three years together. These great flocks are said to be always attended by lions; and it is observed, where a lion is, there is a large open space. We saw several flocks, but not exceeding twenty in each. We met a party of Dutchmen, who had been about 150 miles to the northward of Bockland, destroying the Boschman Hottentots. They informed us, they had seen great flocks of the spring bucks; but there happening much rain, which had recovered the grass and vegetation, they had been obliged to change their course, and return to the interior parts of the country.

3d, 4th, We continued our journey along this elevated tract; having on our right hand, or south-side, the precipice, which is inaccessible; and on the north-side, a desolate hilly country, inhabited by a few wandering tribes of the Boschman Hottentots. At night we came to the place of our benefactor, whose name was KLAAS LOSPER; he was a very opulent man in those parts, having upwards of 12,000 sheep and 3,000 bullocks. Most of the plants that we collected here were new; and, I believe, many more remain, this having been the dry season, when most of the flowers were gone.

6th, We directed our course northward, through a dry, barren country, called Hantum; and on the 10th came to the last Dutch habitation on this side of the country. As we passed along we found many new plants growing near the banks of rivers, which were then quite dry; but the soil consisted of nothing but rotten rock. The hills were of the same substance, all of a conical figure, and entirely covered with pieces of rock, about the size of a man's fist. We continued several days at this habitation, where we were well entertained. They had excellent bread, good mutton, butter and milk, but no kind of strong liquors. We made several enquiries about the country lying to the northward; and were told, that it had been formerly inhabited by Europeans near a hundred miles further, who at first had greatly increased their herds; but that some dry seasons coming on afterwards, they had been forced to return: the country therefore was supposed to be uninhabited, except by the wandering Hottentots, who seldom stay above a month in a place. This place is about 350 English miles north from the Cape of Good Hope. We now changed our course, going directly S. E. through an uninhabited country much like the former, surrounded by high mountains, flat on the tops, and forming what the peasants call Table Mountains. I never saw the smallest rivulet or fountain issuing from them; all the water that we found being that which was left stagnant in the deepest parts of the rivers, that are formed by the rain in the winter season, which rivers, towards midsummer, in other places become entirely dry.

14th, To Rhinoceros Rivier. Here we saw great herds of zebras, and were informed by three Dutchmen, who passed us on horseback, that this place was frequented by a large lion; and, as a proof, they shewed us a zebra, which he had lately killed; assuring us, if we stayed all night



night there, he would pay us a visit. We travelled about ten miles further, and at night saw a flock of sheep and some bullocks, which greatly animated us, expecting to find some habitation where we might shelter ourselves during the night; but, when we came to the place where the sheep were, we found a Dutchman with his wife and several young children, sitting under the shelter of some bushes, which they had formed into an alcove, to screen them from the heat of the sun. We stayed here all night, and the man asked us to sup with them; which we did, and made them a present of some tea and tobacco, which they thankfully received; and the next day the husband saddled his horse, rode six or seven miles with us, and gave us very good directions how to proceed in our intended course.

16th, We ascended a flat chain of mountains, called Rogge Velds Berg, where we found the road extremely rugged. Rogge Veld extends along the summit of a high ridge of mountains, running obliquely across the country for several hundred miles. It is very arid, except in some vallies, where the Dutch peasants have their habitations; but the general face of the country is rock. The soil is a red ochrey loam; it binds very hard in summer, and is in most places salt, which causes bad water. There is not a tree in the whole country, unless we should so call a few miserable shrubs, and of these the largest not exceeding two feet in height. The air is very sharp, and in winter they have frost and snow for several months, which obliges the Boors to remove, with all their flocks and herds, down to the Carro, or lower desarts, where they spend the winter; and at that time have plenty of fresh water, and all the shrubs green, which afford food for their cattle. They remove down in the beginning of May, when they have sown their corn, and return about the latter end of October, when the low country becomes parched, and the water turns salt, or is entirely dried up. All the game and ferocious animals observe the same removes. The ancient inhabitants of this country, called by the Dutch Boschmenschen, are a savage people, and very thievish; often carrying off 700 sheep at a time, and killing their shepherds. They use bows and arrows, and poison the arrows with the venom of serpents mixed with the juice of a species of *euphorbia*, which we had no opportunity of seeing. These Hottentots have neither flocks or herds, nor any fixed habitation, nor even skins to cover them; but live in the cavities of rocks, like baboons. Their common food is roots of plants, many of which we have not been able to discover. They eat snakes, lizards, scorpions, and all kind of reptiles. There is a caterpillar, which produces a very large moth, and is found commonly on the *mimosa nilotica*. These are found in great plenty, often stripping the trees of all their leaves, and of them the Hottentots make many a delicious meal. They also eat the eggs of a large species of ant, which they dig out of the ground in great quantities, washing them in water, and afterwards boiling them. They are commonly called Hottentot's rice. This is an excellent country for sheep; but the inhabitants breed few oxen, and those only for their own use. We found few plants here; but those we found were all new. I did not see an *erica* or *protea* in the whole country.

22d, The ground was white with frost, and the wind sharp. At first we proposed to continue our journey along the top of these mountains to the N. E. extremity; but our waggons were so shaken by the ruggedness of the road, and our horses and oxen so tender-footed, that they became unserviceable, and we were obliged to drive them loose a great part of the way home.

Dec.

Dec. 2d, We thought of descending the mountain, and directing our course to the Cape; but it blew a violent storm, and was extremely cold. The next morning the ground was white with frost, and there was ice upon the pools as thick as a crown piece. This alarmed the peasants, their wheat being then in blossom, which they expected would be entirely destroyed: a circumstance that often happens in this country.

3d, We were furnished with fresh oxen, and several Hottentots, who, with long thongs of leather fixed to the upper part of our waggons, kept them from overturning, while we were obliged to make both the hind wheels fast with an iron chain to retard their motion. After two hours and a half employed in hard labour, sometimes pulling on one side, sometimes on the other, and sometimes all obliged to hang on with our whole strength behind the waggon, to keep it from running over the oxen, we arrived at the foot of the mountain, where we found the heat more troublesome than the cold had been on the top. We now entered a large division of the Carro, which lies along the foot of the Rogge Veld's mountains, being a desert of four days journey, with no more than three pits of brackish water to be found in all that extent, which was at this season forsaken by every living creature; but in winter it is the habitation of the Rogge Veld Boors, as I observed before.

5th, To Unlucky river, called so from a man having been there formerly devoured by a lion. We remained here a day to rest our oxen, having found a pit with brackish water, and some reeds, which the oxen devoured with greediness.

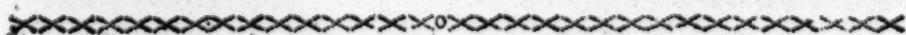
8th, About eleven o'clock at night we got clear of the desert, and arrived at the foot of the Bocke Velde mountains, where we lodged by a rivulet of pure fresh water; and we spent the remainder of that night and part of next day in great luxury.

11th, To Verkeerde Valley, where we rested three days, having found good pasture for our oxen, and a large lake of fresh water, well stocked with water-fowl. We lived on wild ducks and snipes, though the fields abounded likewise with korhaans, (a kind of bustard) partridges, hares, &c. and great flocks of ostriches.

15th, To Hexen Rivier, which runs along a narrow passage through the great chain of mountains, between Rood Land and Zwellendam. This valley is inclosed on each side with impassable mountains, whose tops were still covered with snow. There are several very genteel habitations in it, where we got some wine and excellent fruit. We found many rare plants on the sides on these lofty mountains; and, I believe, there still remains many more entirely unknown to us.

18th, To Breede rivier, (Broad river.) | 26th, To Paarde Berg.

22d, To Rood Land. | 28th, To the Cape Town.



# P O E T R Y.

S T A N Z A S,  
From a Robin Redbreast to a Lady.  
*Diffugere nives, recunt jam gramina campis.*  
HOR.

"Nature's herself again." ANON.

W H E N Nature's lap, that erst  
was green,  
Was fill'd with driven snow;  
Nor could a blade of grass be seen,  
Or vegetable grow;

When birds and beasts, by stress of wea-  
Were driven helter-skelter, [ther,  
And sought promiscuously together,  
Some ample barn for shelter;  
To thee I dragg'd my wings along,  
And pour'd forth all my grief;  
Thine ear attentive heard my song,  
Thy hand bestow'd relief;  
I rang'd, at large, thy roofs around,  
Of viands had my fill;



No stream, in icy fetters bound,  
Oppos'd my thirsty bill.

Without—the snow, by storms sus-  
Led on the infant year; [tain'd,  
But thro' thy friendly rooms there  
A vernal atmosphere: [reign'd

Saturnian peace near thee appear'd,  
Unknown was hostile law;  
No fav'rite spaniel's teeth I fear'd,  
No cat's elastick paw.

But now the earth throws off her mask,  
And clouds portend no storm;  
To seize the fly's my easy task,  
Or bolt the sluggish worm.

Rough labour calls her cherish'd swains,  
To aid approaching spring;  
Who, bending o'er the new-till'd plains,  
Their grateful Pæans sing.

To thee, O Whitworth,\* whose good  
Shall live in ages hence; [name  
A pillar, in the rolls of fame,  
Of true benevolence.

Seek then, my fair, the fir-crown'd hill,  
And catch the wholesome breeze;  
I'll twine the woodbine with my bill,  
Among the loftier trees.

To thee, stretch'd on the chequer'd  
I'll tune my humble note; [steep,  
And stop when gently lulled asleep,  
The gnat's sonorous throat.

Shou'd noxious asps thy rest surprize,  
Veil'd in the mossy ground;  
I'll dart upon their witching eyes,  
And warn thee ere they wound.

For tho' you boast, the human mind  
Holds all that's great and good;  
Yet oft in us poor birds, you'll find  
Some traits of gratitude.

\* Sir C. Whitworth, chairman of the  
Committee of Charity in London, by whose  
charitable plan 100,000 souls were well  
supported in the last snow.

## The SEASONS.

### Spring.

HASTE, gentle muse, thy ready  
visit pay  
To Flora, and the laughing month  
of May;  
Wander abroad among the groves  
and bowers,  
Lurk in the shade, or revel 'mong  
the flowers;

Nature smiles round, the birds begi  
to sing,  
And ev'ry voice proclaims—This is  
the spring;  
Thus shall the muse proclaim with  
real truth,  
Spring is the flow'ry holyday of  
youth.

### Summer.

Now Sol begins with heat intense  
to glow,  
And thirsty plains his pow'rful in-  
fluence shew:  
Brown waves the corn, the furrow'd  
glebe along,  
While the tann'd peasant chaunts his  
home-born song;  
Or to his Phillis points with lively  
cheer  
To view the rip'ning harvest of the  
year.  
My muse, her moral meaning to  
pursue,  
Says, This is ripen'd manhood that  
you view.

### Autumn.

Quick to the vine-yard haste, and  
view the vines,  
Where the ripe grape in all its fulness  
shines;  
Pomona's treasures, all display'd to  
sight,  
Fills ev'ry mind with infinite delight.  
The sheaves are bound, while rapture  
wakes the morn,  
And Autumn fills with joy kind  
Plenty's horn;  
Yet if this season we but rightly scan,  
Then Autumn is the very prime of  
man.

### Winter.

ROUGH Boreas now takes up his  
turn to reign,  
And frost and snow have spangled  
o'er the plain;  
The peasants that at Autumn's har-  
vest sweat,  
Quick lift the flail to get a kindly  
heat;  
Close to the blazing hearth at night  
they croud,  
While the wind whistles round their  
cot aloud.  
Here we shall end of man the pil-  
grimage,  
For Winter is grey hairs, and hoary  
age.

# The Farmer's Magazine,

A N D

## Useful FAMILY COMPANION:

NUMBER X. (for January, 1777, (Price 6d.

Embellished with a neatly engraved Copper-Plate of WELD,  
WOLD, or DYER'S WEED.

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To which is added,

A GENERAL DICTIONARY of Husbandry, Planting, Gardening, and the Vegetable Part of the *Materia Medica*: Containing a great Variety of new and useful matter, with many original Articles.

By AGRICOLA SYLVAN, Gentleman.

Printed for W. GOLDSMITH, No. 24, in Pater-noster-Row;

And R. CRUTTWELL, in BATH;

And sold by every Bookseller, Stationer, and News-Carrier, in the Kingdom.



# AVERAGE PRICES of CORN,

From Jan. 13, to Jan. 18, 1777.

By the Standard Winchester Bulhel of Eight Gallons.

|        | Wheat | Rye   | Barley | Oats  | Beans |
|--------|-------|-------|--------|-------|-------|
|        | 1. d. | 1. d. | 1. d.  | 1. d. | 1. d. |
| London | 4 7   | 3 0   | 2 2    | 1 11  | 3 0   |

## COUNTIES INLAND.

|             |      |      |      |     |    |
|-------------|------|------|------|-----|----|
| Middlesex   | 4 11 | 3 2  | 2 4  | 2 3 | 3  |
| Surrey      | 4 11 | 3 6  | 2 5  | 1 3 | 11 |
| Hertford    | 5 1  | 2 5  | 2 7  | 1 7 | 7  |
| Bedford     | 5 0  | 2 4  | 2 1  | 1 3 | 8  |
| Cambridge   | 4 11 | 2 11 | 2 1  | 1 2 | 6  |
| Huntingdon  | 4 9  | 2 3  | 1 7  | 1 3 | 2  |
| Northampton | 5 0  | 2 8  | 2 1  | 1 0 | 3  |
| Rutland     | 5 3  | 2 9  | 2 1  | 1 8 | 3  |
| Leicester   | 5 1  | 2 3  | 1 9  | 1 3 | 8  |
| Nottingham  | 5 1  | 2 10 | 2 1  | 1 9 | 2  |
| Derby       | 5 4  | 2 5  | 1 11 | 1 3 | 9  |
| Stafford    | 5 0  | 3 3  | 2 4  | 1 9 | 11 |
| Salop       | 4 11 | 3 0  | 2 1  | 1 8 | 9  |
| Hereford    | 5 0  | 2 3  | 1 10 | 1 3 | 9  |
| Worcester   | 5 1  | 2 9  | 2 5  | 1 3 | 11 |
| Warwick     | 5 2  | 2 7  | 2 3  | 1 3 | 11 |
| Gloucester  | 5 8  | 2 4  | 1 10 | 1 3 | 4  |
| Wilt        | 5 7  | 2 3  | 1 11 | 1 3 | 9  |
| Berks       | 4 11 | 4 0  | 2 4  | 1 2 | 2  |
| Oxford      | 5 0  | 2 3  | 1 11 | 1 3 | 1  |
| Bucks       | 4 11 | 2 3  | 1 0  | 1 2 | 10 |

## COUNTIES upon the COAST.

|            |      |      |      |      |    |
|------------|------|------|------|------|----|
| Essex      | 4 8  | 2 5  | 2 0  | 1 3  | 8  |
| Suffolk    | 4 5  | 2 9  | 2 1  | 1 0  | 9  |
| Norfolk    | 4 4  | 1 10 | 1 8  | 1 3  | 1  |
| Lincoln    | 4 7  | 3 4  | 2 1  | 1 8  | 5  |
| York       | 5 0  | 3 12 | 2 5  | 1 8  | 7  |
| Durham     | 4 11 | 3 0  | 2 3  | 1 7  | 8  |
| Northumb.  | 4 2  | 3 0  | 1 11 | 1 8  | 1  |
| Cumberland | 4 11 | 3 0  | 1 10 | 1 5  | 0  |
| Westmorel. | 5 6  | 2 0  | 1 5  | 1 3  | 1  |
| Lancashire | 5 6  | 2 4  | 1 8  | 1 3  | 2  |
| Cheshire   | 5 2  | 2 6  | 1 7  | 1 7  | 7  |
| Monmouth   | 5 7  | 2 3  | 1 7  | 1 7  | 7  |
| Somerset   | 5 8  | 2 2  | 1 7  | 1 11 | 11 |
| Devon      | 5 11 | 2 2  | 1 4  | 1 4  | 4  |
| Cornwall   | 5 7  | 2 1  | 1 3  | 1 3  | 3  |
| Dorset     | 5 4  | 2 1  | 1 10 | 1 3  | 8  |
| Hampshire  | 4 8  | 2 4  | 1 0  | 1 3  | 4  |
| Suffex     | 4 6  | 2 3  | 1 0  | 1 3  | 4  |
| Kent       | 4 9  | 2 6  | 1 2  | 1 11 | 11 |

From Jan. 6, to Jan. 11, 1777.

## WALES.

|           |     |      |     |     |     |
|-----------|-----|------|-----|-----|-----|
| No. Wales | 5 2 | 3 10 | 2 2 | 1 5 | 3 2 |
| So. Wales | 5 3 | 3 7  | 2 6 | 1 4 | 2 7 |

## Part of SCOTLAND

|       |     |        |      |       |       |
|-------|-----|--------|------|-------|-------|
| Wheat | Rye | Barley | Oats | Beans | Big   |
| 3 8   | 1   | 7 1    | 7 1  | 5 3   | 0 1 7 |

Published by Authority of Parliament,

WM. COOKE.

The ASSIZE of BREAD, as set by the Lord-Mayor of London, Tuesday, Jan. 21st.

|                            |         |
|----------------------------|---------|
| The Penny Loaf, Wheaten,   | 0 10 8  |
| Household,                 | 0 14 4  |
| Two-penny Loaf, Wheaten,   | 1 5 0   |
| Household,                 | 1 12 8  |
| Three-penny Loaf, Wheaten, | 1 15 8  |
| Household,                 | 2 19 12 |

To weigh, To be sold for,  
lb. oz. dr. s. d.

|                   |                  |
|-------------------|------------------|
| The Peck, 17 6 0  | Wheaten, 2 2     |
| Half Peck, 8 11 0 | Household, 1 7 1 |
|                   | Wheaten, 1 1 1   |
|                   | Household, 0 9 2 |
| Quatern, 4 5 8    | Wheaten, 0 6 1   |
|                   | Household, 0 5   |

## SMITHFIELD-MARKET.

|               |            |
|---------------|------------|
| Beef, per lb. | 2d. to 3d. |
| Veal,         | 3d. to 4d. |
| Pork,         | 4d. to 5d. |
| Mutton,       | 2d. to 3d. |

House Lamb, extravagantly dear.

## WHITECHAPEL.

|        |                     |       |
|--------|---------------------|-------|
| Hay,   | 3l. 12s. to 4l. 6s. | Load. |
| Straw, | 2l. 0s. to 2l. 5s.  | Ton.  |

## PRICES of STOCKS.

|                                 |                     |                        |
|---------------------------------|---------------------|------------------------|
| Bank Stock, —                   | India —             | South Sea, —           |
| Old Ann. —                      | New Ann. —          | —, 3 per cent. Red. —  |
| 3 per cent. 1726, —             | 3 per cent. 1751, — | Annuities, —           |
| 3 per cent. 1758, —             | 4 per cent. Con. —  | Bonds, 17 a 18s pre. — |
| Navy & Vict. Bills, 2 1/2 a 1/2 | Long Ann. —         | Exchequer Bills, —     |

## PRICE of CORN at MARK-LANE.

Monday, Dec. 18.

|                       |               |
|-----------------------|---------------|
| Wheat, per quarter,   | 32s to 39s od |
| Barley,               | 14s to 19s od |
| Rye,                  | 20s to 22s od |
| Brown Malt,           | 20s to 26s od |
| Pale ditto,           | 21s to 27s od |
| Oats,                 | 32s to 17s 6d |
| Essex Beans,          | 22s to 27s od |
| Pick,                 | 20s to 26s od |
| Boiling Pease,        | 28s to 35s od |
| Hog ditto,            | 25s to 27s od |
| Tares,                | 24s to 30s od |
| Fine Flour, per Sack, | 34s           |
| Second ditto,         | 30s           |
| Third ditto,          | 27s           |



T H E

## FARMER'S MAGAZINE.

-----  
*A DISSERTATION on the Progress and present State of*  
AGRICULTURE. [Continued.]

OUR account of the Indians\* would be imperfect, were we to take no notice of their supposed fondness for human flesh. That they sometimes

\* We omitted in its proper place to observe, that the Indian women who spin cotton, do it by the hand, though slowly, for want of a proper machine; from this they weave hammocks, but in a very slow and tedious manner, for want of instruction to employ their labour to advantage. Their manner of weaving is by winding the cotton, when spun, round two small wooden sticks of sufficient length, placed at about seven feet distance from each other, disposing the threads singly, parallel and contiguous to each other, till they extend a sufficient width, which is usually six or seven feet: the threads thus disposed, serve for the warp: they then wind a quantity of cotton on a small pointed piece of wood, and begin their weaving at one end, by lifting up every other thread of the warp, and passing the pointed stick with the woof under it: this they do until they have gone through the whole width of the warp, and then return in the same manner, taking up those threads which they missed before, and pressing the threads close together. When the weaving is completed, the hammock is stained with juice of the bark of trees, disposed so as to form various figures, which are red, and ever after indelible. The trees which yield this juice, I am informed, are the Wallaba, and red Mangrove. To weave a hammock in this manner, requires the labour of several months, and therefore all the other tribes, who have less industry, content themselves with hammocks made either from cotton-yarn, or the twisted bark of the Samee tree, connected by net work. They likewise form the teeth of fish into small cylinders, which they perforate with a small hole from end to end, and then cut the cylinder into many small pieces, which compose so many white, smooth, shining beads, which are strung, and worn for ornament.



times roast and eat the flesh of their captives, is incontestible; but we have good authority for saying that they do not prefer it to other food. They have a tradition (which is an ancient one) that eating the flesh of their enemies will make them good warriors; but a small slice of it generally suffices.

However horrid and unnatural such an action may be considered by European nations, (and indeed it seems so horrid and unnatural, that the very existence of cannibals has lately been denied by several modern compilers of history, notwithstanding the repeated attestations of travellers to the contrary) yet, for persons who have never quitted their native country, to determine concerning the manners of distant unknown nations, and, on the strength of plausible appearances, to impeach the veracity of travellers, and positively deny those things which, at most, they are but permitted to doubt, is a culpable temerity which deserves reprehension. "I must, however, says Mr. Bancroft,\* do these Indians the justice to declare, that they never eat any of the human species, except their enemies killed in battle, to which they think they have as good a right as those animals by whom they would otherwise be eaten. But you will doubtless think it unnatural for any animal to devour those of its species, even when necessarily killed in self-defence, and in this I am of your opinion; though I am sensible that we have been educated in a state of civilization, so different from that of nature, that we are but ill able to determine what is, or what is not natural. It is certainly more unnatural to kill each other by unnecessary wars, than to eat the bodies of those we have killed; the crime consists in killing, not in eating, as the worm and vulture testify, that human flesh is by no means sacred. But though civilized nations abhor eating, they are familiarized to the custom of killing each other, which they practise with

\* History of GUIANA.

with less remorse than the savages. But custom is able to reconcile the mind to the most unnatural objects. What but habitude and custom could enable us to survey, without an involuntary horror, the mangled carcases of inoffensive animals, exposed in a London market, who have been killed to gratify our appetites, and whose care and sollicitude for the preservation of life, demonstrates that they enjoyed a degree of happiness therein, of which at least it is cruelty to deprive them. Man's right over the lives of subordinate animals I will not dispute; the apparent difference in the mechanism of the masticatory and digestive organs of carnivorous and granivorous animals, evidently demonstrates, that nature designed some for the prey of others: but mankind have a natural capacity for subsisting indiscriminately, either on animal or vegetable food; and numerous instances testify, that the latter is most conducive to health and longevity: and therefore not only humanity, but self-interest, conspire to engage us at least to abridge the quantity of animal food, which at present we devour with so much avidity."

"Their *arrow-poison* proves almost instantaneously fatal; the recipe for preparing it is as follows:

Take of the bark of the root of Woorara, six parts;  
of the bark of Warracobba coura, two parts;  
of the bark of the roots of Couranapi, Baketi,  
and Hatchybaly, of each one part:

All these are to be finely scraped, and put into an Indian pot, and covered with water. The pot is then to be placed over a slow fire, that the water may simmer for a quarter of an hour; after which the juice is to be expressed from the bark by the hands, taking care that the skin is unbroken: this being done, the bark is to be thrown away, and the juice evaporated over a moderate fire to the consistence of  
tar,



tar, when it is to be removed, and flat pieces of the wood of Cokarito are dipped therein, to which the poison, when cold, adheres, appearing like a gum of a brown reddish colour. The pieces of wood are then put into large hollow canes, closed at the ends with skins, and in this manner the poison is preserved until it is wanted to invenom the point of an arrow, at which time it is either dissolved in water, and the points of arrows dipped in the solution; or the wood to which it adheres is held over the fire until it melts, and the points of arrows are then smeared with it. The smallest quantity of this poison, conveyed by a wound into the red blood-vessels of an animal, causes it to expire in less than a minute, without much apparent pain or uneasiness; though slight convulsions are sometimes seen near the instant of expiration.

"If the cuticle is unbroken, this poison, dissolved, may be smeared over the whole body, without danger; and I have often, in making experiments, found not only my hands, but arms, wet with a watery solution of the Woorara, which is susceptible of a violent effervescence with the heat of the sun only, and which I have suffered to dry upon the skin with impunity. In this case life depends upon a whole skin."

"The poison-arrows are made from splinters of the hard, solid, outer substance of the Cokarito tree, and are usually about twelve inches in length, and are somewhat larger than a coarse knitting-needle. One end of the arrow is formed into a sharp point, and invenomed in the poison of Woorara; round the other end is wound a roll of cotton, adapted to the cavity of the reed through which the arrow is to be blown. The arrow, thus decked, and armed for destruction, is inserted into a hollow straight reed, several feet in length, which being directed towards the object, the arrow is, by a single blast of air

air from the lungs, protruded through the cavity of the reed, and flies, with great swiftness and unerring certainty, the distance of thirty or forty yards, conveying speedy and inevitable death to the animal from which it draws blood. Blowing these arrows is the principal exercise of the Indians from their childhood; and by long use and habitude they acquire a degree of dexterity and exactness at this exercise, which is inimitable by an European, and almost incredible."

*The Advantages and Disadvantages of Civilization and Refinement.*

[From Bancroft's History of GUIANA.]

In reviewing the manners of these Indians, some few particulars excepted, I survey an amiable picture of innocence and happiness; which arises chiefly from the fewness of their wants, and their universal equality. The latter destroys all distinctions among them, except those of age and personal merit, and promotes the ease, harmony, and freedom of their mutual conversation and intercourse. This facilitates the happiness of the Indian lover, who finds no obstacles to the fruition of his desires from inequality in rank or fortune, or from the views which ambition and interest inspire; and this annihilates all envy and discontent. But the advantages resulting from the paucity and simplicity of their desires, contribute to their felicity in a more eminent degree. Man's real wants are but few, and those few not long; tho' in civilized countries they have been multiplied by luxury and refinement to an excruciating excess.

Those who have been unhappily familiarized to all the various refinements of luxury and effeminacy which attend the great, and whose deluded imaginations esteem them essential to happiness, will hardly believe that an Indian, without any other covering but what modesty requires, with shelter which cannot deserve the name of a house, and a few culinary and domestic utensils, without any other possessions, and only the rustic food procured by hunting, dressed without variety, art, or delicacy, could form any pretensions to felicity; and yet, if I may be allowed to judge from external appearances, the happiness of these people may be justly envied even by the the wealthy of the most refined countries; as their happy ignorance



norance of those extravagant desires and endless pursuits, which agitate the great luxurious world, excludes every wish beyond their present enjoyments.

The fewness and simplicity of their wants, with the abundance of means for their supply, and the ease with which they are acquired, renders all division of property useless. Each amicably participates the ample blessings of an extensive country, without rivalling his neighbour, or interrupting his happiness. This renders all government and all laws unnecessary, as in such a state there can be no temptations to dishonesty, fraud, injustice, or violence, nor indeed any desires which may not be gratified with innocence; and that chimerical proneness to vice, which, among civilized nations, is thought to be a natural propensity, has no existence in a state of nature like this, where every one perfectly enjoys the blessings of his native freedom and independency, without any restraints or fears, but those of religion, which their Peii's have artfully created; to these, however, the inhabitants of all countries are, in a greater or less degree, subjected.

To acquire the art of dispensing with all imaginary wants, and contenting ourselves with the real conveniencies of life, is the noblest exertion of reason, and a most useful acquisition, as it elevates the mind above the vicissitudes of fortune. Socrates justly observes, "That those who want least, approach nearest to the Gods, who want nothing." The simplicity, however, which is so apparent in the manners of these Indians, is not the effect of a philosophical self-denial, but of their ignorance of more refined enjoyments, which, however, produces effects equally happy with those which result from the most austere philosophy; and their manners present an emblem of the fabled Elysian fields, where individuals need not the assistance of each other, but yet preserve a constant intercourse of love and friendship:

*O fortunati nimium, bona si sua norint.* VIRG.

These Indians are indeed unlettered and ignorant, as are all those whose wants are few; the progress of arts and sciences having ever kept pace with luxury. Mankind seldom attend to objects which are not connected with either their pleasures or necessities; and where curiosity is thus unexcited, reason will never undergo the trouble of investigating the properties and causes of objects, which, when discovered, could afford no entertainment; where, therefore, the wants and desires of mankind are few, their enquiries, and consequently their knowledge, will be confined. This ignorance, however, is a vehicle of happiness to these Indians, as it  
would

would certainly render them miserable to be endowed with sentiments and desires above their capacity of enjoyment : and happy will it be, if they never emerge from their present state.

Several moderns, celebrated in the literary world, from observing the innocence and happiness which savage nations enjoy, though ignorant of the liberal arts, have from thence inferred, that arts and sciences were prejudicial to civilized society, and have proceeded to charge them with all the ill effects resulting from luxury, which has ever been their companion, or rather their parent. In this, however, they have egregiously erred ; as those things which, in a state of nature, are useless, may be highly salutary in a state of civilization ; as arts and sciences are the surest antidote against the evils of luxury and refinement. The ills of civilized society have their source in the unnatural institution and unequal distribution of property, which is necessarily produced by the different degrees of sagacity, industry, and frugality, in individuals, transmitted to, and augmented by, an accumulating posterity, till the disproportion in the possessions of different individuals, becomes enormous, and creates a thousand unnatural distinctions among mankind, enabling some to squander the bread of provinces in a profusion of satiating pleasures ; while multitudes suffer by want, insulted by every species of subordinate tyranny, and oppressed by every law which gives others protection ; while objects still more wretched, who are emaciated with the complicated evils of hunger and disease, unclothed even with rags, disclaimed by the world, and abandoned to the rigours of winter, penury, and despair, and whose miseries rather excite horror than compassion, daily shock humanity. Thus the excessive disproportion of wealth, renders the poor miserable, without augmenting the happiness of the rich. When this disparity becomes considerable, then, and not till then, luxury advances with all its attendant pleasures and refinements, which, without communicating an increase of happiness to those who enjoy them, tempt those who have them not to endeavour to acquire them by unjust and violent means. Mankind are then taught to connect the ideas of happiness with those of dress, equipage, affluence, and all the various amusements which luxury has invented ; thence they become the slaves of a thousand unnatural imaginary wants, which become the source of envy, discontent, fraud, injustice, perjury, and violence, by stimulating inordinate appetites, and creating unnatural temptations to vice,



too powerful for the sway of reason; and thus mankind become the authors of moral evil.

We, in a state of civilization, universally complain of an inability to conform to the dictates of reason and virtue: an inability which has been unjustly charged to a natural propensity to vice, but which is the sole production of luxury, and unknown in a state of nature. Luxury, however, in generating immorality, likewise promotes the advancement of literature, which, by a variety of means, tends to repress and discountenance vice. A state in this situation, like a body corrupted by intemperance, requires to be supported by the continuation of corrupt means; and luxury in the rich promotes industry and arts, and feeds and cloaths the labouring poor, who would otherwise starve. Thus by an unnatural perversion of things, the members of a corrupt state derive advantage not only from the follies, but vices of each other; and the fabulous speech and confession of a dying malefactor prevents many from starving.

But every kind of life has its peculiar advantages as well as evils. The vices of civilized countries, though more numerous, are less terrible. Artificial wants extend the circle of our pleasures; and even luxury, by multiplying our desires, enlarges our capacity for happiness. Whether, therefore, we pass life in the rustic simplicity and ignorance of Hottentot barbarism, or in the endless pleasures of refinement and luxury, we shall all arrive to the same end, and perhaps with an equal portion of happiness, as far as it depends on external enjoyments, abstracting only the miseries of real want and disease.

[To be continued.]

[We shall begin the next volume with a particular account of husbandry practised by the Europeans in North-America.

In selecting the plates of grasses and plants, a mistake was committed respecting Indian Corn, instead of which we gave *Guinea Corn*, or Millet; in order therefore to make this volume complete, we have in this number given its natural history and cultivation, and shall in some future one give a plate of *Indian Corn*, vulgarly called Maize.]



ART. II. *The Natural History and Cultivation of WELD,  
or DYER'S-WEED.*

**WELD**, **WOLD**, or **DYER'S WEED**, [*Luteola, Reseda*] is a plant cultivated for the use of the dyers: it communicates a beautiful yellow colour to silks, woollens, &c.

The root, which is composed of a few ligneous fibres, does not pierce deep: from this root it puts forth leaves about four inches long and half an inch broad, of a lively green, soft to the touch, which spread circularly near the ground, with some gentle wavings at their edges, but obtuse at their points. Its stem, which rises from amidst these leaves to the height of three feet, or even more if the soil and culture be very good, often branches out, and is garnished with leaves like those below, though smaller in proportion as they approach the flowers, which grow in long loose spikes at the end of the branches or stem. These flowers, which appear at the latter end of June, are each of them composed of three small irregular petals of a greenish yellow, to which succeeds a globular berry of the same colour, terminated by three points, and in which are inclosed small brown spherical seeds. These seeds ripen in September. The plant becomes entirely yellow when it is dry, and the whole of it, but especially the berry, is used in dying. The slenderest weld, and particularly if it inclines to a russet colour, is accounted the best: that which is larger, and of a dull green, is much less esteemed.

This plant grows naturally along the sides of highways, upon dry banks, and on old walls, in many parts of England, France, Spain, and other countries where the winters are not very severe; but the cultivated sort is far preferable to the wild, both for the quantity and the goodness of the colour which it yields. It will thrive tolerably on almost any soil, provided it be dry and warm; but the richer the land is upon which it is sown, the greater will be the produce; and in proportion to the care with which it is cultivated, the more vigorous and fit for dying will it be.

The ground should be in fine tilth at the time of sowing it; though, unless it be very poor indeed, it will not require dung. The seed should be that of the preceding year; for if it be older, great part of it will not grow. Both Mr. Worlidge and M. Du Hamel are of opinion that weld seed should, on account of its smallness, for it is but little bigger than that of purslane, be mixed with ashes, buck-wheat, oats, or some other similar ingredient, in order the better to avoid sowing it too thick; for the plants of weld thrive best when they are a-



bout six inches asunder. Some sow it on barley, or oats, after they have been sown and harrowed, this requiring only a bush to be drawn over it; for it should not be covered deep. A gallon of weld-seed thus used in the broad cast way will be sufficient to sow an acre of land. It will not grow much during the first summer, when it is thus sown; but it will thrive apace after the corn is taken off. Mr. Miller, however, justly observes, that the best way is to sow it without any other crop.

The beginning or middle of August is a proper season for sowing weld in this country. The only care that it requires whilst growing, is to keep it clear of weeds which might choke it, or at least weaken its growth.

The French, in general, sow their weld in March, and pull it up in July or August of the ensuing year, when part of its seeds are ripe, and the plant is full of a greenish yellow: they then dry it and thresh it upon cloths, to get the ripest of the seed, and after this they tie the stalks up in bundles, and sell them to the dyers. But Mr. Miller rightly judges, that the best time to pull the weld for use is when it begins to flower, that is to say, about the latter end of June, because like all other vegetables, it is then in its greatest vigour, and consequently best fitted to yield the greatest quantity of dye. For a produce of new seeds, it is much better to sow a small piece of land on purpose, or to set apart for this end a suitable portion of the field of which the plants are intended for use, rather than let the whole stand too long, that is to say, till part of the seeds are ripe; because by letting the plants stand till then, their quality is injured far beyond the value of the seeds that are got from them (the berries being, as was observed, before, the part which yields the finest dye); and besides the seeds thus obtained will of course be a mixture of ripe and half-ripe ones, on the growing of which there cannot be a due reliance. The common way of drying these plants, is to set them upright in small handfuls in the field, and when they are dry, to tie them up in bundles. They must also be housed dry; and care must be taken to stack them so loosely that there may be room for the air to pass between them, to prevent their fermenting.

The plants which are intended for seed should be pulled as soon as their seeds are ripe, and then be dried and beaten out for use; for if this is deferred, or if they are let stand too long, the seeds will scatter.

The method of cultivating this plant at Oissel, in Normandy, where great quantities of it are raised for exportation to Holland, independent of the consumption in France, is thus related

related by M. Dambourney, in the Memoirs of the Royal Society of Agriculture at Rouen.

"In the month of July, just after the kidney beans then in bloom have been hoed for the second time, and earthed up, especially if there be an appearance of approaching rain, weld seed is sown among them, very thin, as equally as possible. Careful husbandmen bury this seed by dragging over it a small bush of thorns. Whilst the weld rises, the beans ripen and are gathered; after which the ground remains, of course, planted with weld only. This is hoed about Michaelmas, then left in that condition during the winter, and in the ensuing month of March, when the danger of frosts is judged to be over, it is hoed again, to extirpate such weeds as may have come up in the mean time. Towards the end of June in this second year, when the weld has done blooming, when its berries form, and when the plant begins to turn yellow, advantage is taken of the first fair day after a rainy one, to pull it up. Two men will then pull up as much of it in one day, as four men can when the ground is dry and hard. It is carried off in large bundles; but these are untied before the weld is laid up for keeping, and the plants are spread out and set upright against walls or hedges well exposed to the sun, the heat of which completes their drying in two days. They are then laid upon a cloth, to prevent the loss of the seed, which drops very easily out of the now open capsules; and finally, after being tied up again in bundles weighing about thirty pounds apiece, they are piled up loosely in a barn or other well covered place, where they complete their ripening, and generally shrink to less than half of their former weight.

"Weld raised on rich ground is apt to be greasy and too full of stalks: that which grows in sandy places is of a better quality, and has only one main stem: but in return, the produce here is much less than in the former case.

"As soon as the weld has been pulled, sheep are turned in upon the land, to eat up the grass it may have produced: it is then plowed once; and after another plowing at the end of October, it is sowed with wheat, or great rye, without using any other compost or dung. If the land is light and destined for spring-corn, turneps may be sown upon the first plowing after the weld; for they will have time to grow big enough to be pulled before the plowing for oats or small rye, which last crops it will be proper to help with a little shavings or raspins of horn.

"If it be intended to raise weld after peas, the ground should be plowed, and the seed sown very thin: to do which  
the



the more effectually, this seed, like that of turnips, should be taken up only in pinches between the middle finger and the thumb, and the fore finger should remain extended, the better to help its spreading when it is dropped. This seed should be sown in rows sufficiently distant for the plants to have full room to grow; and the best way is to leave an alley after every third row. When sown, it is harrowed in, and the only farther care that the wald requires is to keep the plants free from weeds, by hoeing the ground at Michaelmas and in March, as before directed.

"The wald which is sown after peas does not injure the land it grows on; and therefore in this case, as after the kidney-beans before spoken of, wheat may be sown in October, without any previous manure."

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**ART. III.** *The Natural History and Cultivation of Guinea-Corn, or Millet, to illustrate the Plate in our last Number.*

**MILLET**, [*Milium*] or Guinea-Corn, grows naturally in India, but is now cultivated in many parts of Europe as an esculent grain; this rises with a reed-like stalk three or four feet high, channell'd; at every joint there is one reed-like sheaf which is joined on the top of the sheath, which embraces and covers the joint of the stalk below the leaf; this sheath is closely covered with soft hairs, but the leaf which is expanded has none. The top of the stalk is terminated by a large loose panicle, which hangs on one side, having a chaffy flower, which is succeeded by a small round seed. There are two varieties of this, one with whitish or rather yellowish, and the other with black seeds, but they do not differ in any other particular.

Millet was originally brought from the eastern countries, where it is still greatly cultivated, from whence we are annually furnished with this grain, which is by many persons much esteemed for puddings, &c. It is seldom cultivated in England but by way of curiosity in small gardens, or for feeding poultry, where the seeds generally ripen pretty well.

It must be sown the beginning of April upon a warm dry soil, but not too thick, because the plants divide into several branches, and should have much room; and when it comes up, it should be cleared from weeds, after which it will, in a short time, get the better of them, and prevent their future growth. In August the seeds will ripen, when it must be cut down and beaten out; for when it begins to ripen, if it be not protected from birds, they will soon devour it.

**ART. IV.**

ART. IV. *Queries relative to the most proper Time of laying  
Dung or Manure on Grass Land, &c.*

Mr. SYLVAN,

THE following letter appeared lately in the Manchester Mercury; I therefore send it to you as proper for the Farmer's Magazine. *A Member of the Agriculture Society.*

To Mr. JOHN PARTINGTON.

S I R,

"As I look upon you to be Secretary to the Agriculture Society, I beg leave to propose to that learned and experienced body of men, the two following questions:

1st, When is the most proper time of the year to lay dung, or manure, upon the grass land?

2dly, Whether new, that is, dung of one year's collecting; or old, that is, dung well rotted, will most likely produce the most and the finest Hay-Grass?

'Tis desired and hoped that these two questions will be answered in some subsequent publication.

[*Columella* and the *Old Farmer* have both published their sentiments in the course of this work; if however any of our readers think the subjects require a more particular discussion; we shall be much obliged to either of those gentlemen, or to any other who will be so kind as to favour us with a more direct answer to the queries.]

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ART. V. *To prevent Butter being tainted when Cows feed on  
Turnips or Cabbages.*

Mr. SYLVAN,

The following is extracted from a letter addressed to the Members of the Agriculture Society of Manchester, and is I think well adapted for your useful work.

*A Member of the Society.*

FROM the experience of several years I can say, that the milk and butter of my dairy has not acquired any ill taste or smell, when my cattle have been fed on cabbages and turnips; and this I solely attribute to the care that has been had in taking off all their decayed leaves and roots, and giving them to the cows in a sound, clear state; and I do believe this attention will always preserve milk and butter from taint.

Mrs. Taylor, a widow, of Pendleton, near Eccles, Lancashire, (who is a woman of knowledge and experience in the business of a dairy) imagines she has discovered the valuable art of preventing butter being tainted by cows feeding on turnips and cabbages, and has communicated to me the particulars of it, and which I now hope



hope will undergo the most general and impartial trials and experiments. Mrs. Taylor informs me, she has tried it for a considerable time past, and with uniform success, although no care has been taken to give the cabbages or turnips to her cows sound and clean.

"When the cattle are fed on good eddish or aftermath, and just before they begin to eat cabbages or turnips, that is, when she is certain that the milk is quite free from any ill smell or taste, Mrs. Taylor takes two or three pints of sour cream before, or fresh butter-milk after churning, (though she prefers the former) and puts it into the vessel appointed to receive the collection of afterings and skimmed cream for the next churning, and she gently stirs the mixture once a day. This she continues to repeat at every churning, and by this method obtains fresh and sweet butter during all the time the cattle eat turnips or cabbages."

She adds, "That all the particular care requisite (other than the common attention to cleanliness, so necessary in all dairy business) is, to be certain that the first sour cream or butter-milk used be free from all taint or smell, because, if you set out right, you will afterwards be secure."—It is not prudent, hastily and without examination, to adopt new schemes, which are not supported by a sufficient number of indisputable, well-authenticated facts and experiments; and it must be confessed, that in the case before us, we are not as yet authorised by a sufficient number of trials, to build any theory upon them. However, it may be, perhaps, useful to those who are inclined to make the experiment of this process, to consider what may be the probable causes of the effects ascribed to it.

The chymists tell us, "that the milk of animals is, of all animal matters, the least removed from the vegetable nature; and, as the juices of plants, out of which milk is formed, contain many saline matters, and especially acids, that milk also certainly contains an acid, though, when fresh, this is imperceptible. "If this be the case, we may reasonably conclude from analogy, that milk is capable of the acetous fermentation, as well as vegetables;" and it is asserted, "that milk actually passes through the acetous, in its way to the putrefactive fermentation."

Is it not therefore probable, that the effect of the sour cream (managed as above described) may be that of a ferment; and by hastening the souring of all the cream, &c. added to it for the next churning, prevent the putrefactive taint which these may have acquired from the turnips, &c. from so soon bringing on this last stage of fermentation, which produces the rancid taste and smell complained of?—This seems still more probable, when we consider the assimilatory nature of all ferments. In brewing, we know that the quality of the yeast influences that of the liquor. A small portion of putrid yeast has been known to spread putrefaction through immense quantities of wort. This is also the case with new milk in making cheese, where an acetous fermentation is almost immediately produced in it, and a separation of its parts obtained, by the addition of an acid ferment, such as a runnet.

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Does it hence appear necessary, in order to prevent butter having any bad taste, to churn as frequently as possible, and before the cream has been long sour? And if this process be found to answer, will it not be peculiarly useful in those counties, as Herefordshire, &c. where their butter is scarcely eatable from the time the leaves begin to fall? For if it be in one instance, we may reasonably conclude, that it will be in all, an equal defence against the bad effects of every putrescent food the cattle may eat. At least I hope, that what has been here advanced may be sufficient to recommend a general trial of this process.

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ART. VI. *Dissertation on Manures.* Continued.

*On Watering Land.*

THE principal point to be observed in watering land is first to prepare the field to receive the water; otherwise all the art of man and richness of water combined, will never present us with water meadow in perfection.

The first step to be taken is to make the land perfectly dry, it being of no good service to water wet land; but then this may in part be effected by making open drains in such manner as to serve for both draining the land before it is watered, and for carrying it off after it is watered. For it is well known that land should be watered and drained at the same time. The water (as is commonly said), should be soon on and soon off.

When the land is perfectly drained, the main carriage which is to supply the lesser ones is to be carried along the highest part of the field, with but little fall, for if it runs, however slowly, it will be sufficient. From this carriage the smaller ones are to be properly conducted, and at proper distances, so as to convey the water as regularly as possible all over the field.

If we suppose the land to lie on ridges like a ploughed field, from twenty to thirty feet broad, with a small carriage for the water along the top of each, from which by means of checks or bays occasionally made, it gently trickles down on each side into the intermediate furrows, that carry off the waste water; we shall perhaps have the highest possible ideas in favour of the situation of the land, intended to be watered. However, where the field has a regular slope, or what some call the hanging level, the effect will be nearly the same. But if it be uneven, the earth from the trenches must be spread in the low places so as to prevent the water standing upon them. For unless it runs pretty equally over every part, the grass



may be starved by having too much or too little water. It sometimes happens however, that all the low places cannot be sufficiently raised to receive the water regularly with the other parts; in this case a small open drain should be made to take off the superfluous water.

The distance of the carriages from each other must be particularly attended to. It has often been remarked by people who know but little of watering land to advantage, that the grass grows quickest near the carriages, and that it declines both in goodness and forwardness when the carriages are at any considerable distance from each other. This is natural and obvious, and the defect cannot be compensated by increasing the quantity of water, as this will only be curing one evil at the expence of another. It should be observed, that when the land is nearly level, (as is frequently the case in low meadows) the carriages should be made at a less distance than in sloping grounds, because the water running more freely in the latter will carry its virtue farther, and the flat meadows will be more easily kept dry by having the trenches near enough to answer the purpose of drains.

The time comes next to be considered. If the grass will be wanted very early in the spring, the field should be fed off as close as possible, and all the drains should be opened and cleaned in order to receive the water in November at farthest.

At this time the water is commonly richest, on account of the autumnal rains washing down the manure, &c. from the high lands, more especially those that are in tillage. The water may now be pent upon the land for a fortnight to deposit its rich contents, when it may be taken off for a week or a fortnight, unless a frost intervenes; in which case it should be again thrown over the land and kept running; this circumstance of keeping the water upon the land, during the frosts, must be indispensibly observed, more especially when the grass begins to shoot, or the herbage will be entirely destroyed.

COLUMELLA:

[To be continued.]

#### ART. VII. To improve the Breed of Sheep.

Mr. SYLVAN, THE following hint is not so universally known as it ought to be, nor yet quite so much practised as known, though it is certainly founded on both reason and experience.

A gentleman farmer, famous for his breed of sheep, first makes choice of those ewes, out of which he intends to breed, that

that are the best and most handsome for size and shape. He then turns them out into the highway or upon some barren spot where they can scarcely pick up a blade of grass: those which he finds to be hardy, and that still preserve their flesh and look well as though they were in tolerably good pastures, he reserves for breeders. This requires no remark or comment.

*Bath.*

VARRO.

[The other part of this letter, relative to rotting sheep by throwing water over the land in summer, so as to make it run over the grass, we have omitted; because it is taken notice of and illustrated by our correspondent Columella in the latter part of his letter on watering land, which we are obliged to reserve for our next number, and we hope Varro will not be displeased, as he gives it to us without any remarks of his own.]

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ART. VIII. *Description and Use of a Plough to clean out Water Furrows.*

Mr. SYLVAN,

I Have just had some conversation with a sensible person on the different customs and different kinds of husbandry among farmers. He was admiring our plough which we clean up the furrows of our new sown lands with between the ridges, and said he had rarely ever seen such a one, and commended it much. The farmers in these parts have already used them, and therefore I wondered much at his saying they are uncommon in other countries. It is little more than a common plough in the two mould boards; and as little strength is required we make it light and with very little iron about it; for as the soil is already loose, it cleans out the furrows very neatly by throwing up the earth on each side, and will last many years without any repair.

*A West-Country Farmer.*

[Simple, rational, and useful, as this may seem, we will venture to affirm that there is hardly one farmer in five hundred in some parts of the kingdom that has such a plough. We cordially recommend it as a very useful implement of husbandry, and have not the least doubt but we shall soon see them more common.]

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ART. IX. *To Clean Buff-coloured Cloth.*

TAKE tobacco-pipe clay and mix it with water, till it is as thick as lime-water used for white-washing rooms. Spread this over the cloth, and when it is dry, rub it off with a brush, and the cloth will look extremely well.

ART. X.



ART. X. *On Sowing Turnips between Beans.*

SIR,

I Informed you some time ago [*Farmer's Magazine*, No. VII.] that I had seen an attempt to raise Turnips between the rows of beans. I have since that time had an opportunity of walking over the spot, and I can assure you the turnips are headed (or appled) very well, considering the foulness of the land, which I took some notice of before. The Society for the encouragement of arts, &c. have offered a premium for an account of the best experiments made to determine the advantages arising from cultivating turnips among beans, either in the drill or broad-cast way; and as there is no doubt of turnips succeeding very well, it is to be hoped, that this will encourage this notable improvement in husbandry.

Jan. 4, 1777.

*An Occasional Correspondent.*ART. XI. *A Receipt to Cure the Measles in Hogs.*

Mr. AGRICOLA SYLVAN,

I Think most writers suppose that the measles, which is known to be a very common disorder among hogs, is occasioned by their sties not being kept clean; so that, according to their notions, the disorder is wholly owing to filthiness. I must tell these confident, and perhaps I may say ignorant gentlemen, that the disorder likewise attacks hogs that are well kept in very clean sties; and this both Farmers and dealers in pigs well know to be true: I shall, therefore, present you with a cheap receipt to cure it.

The disorder may be known by the hog's eyes watering and guttering very much, and likewise by his growing spotted. As soon as the disorder is perceived, give the hog two ounces of flour of brimstone, and by repeating the dose once only, it will effectually cure the disorder.

W—shire.

AN OLD FARMER.

ART. XII. *Remedy for Convulsions in Children.*

A Variety of recipes have been pompously puffed off, which are good for nothing. There is one that has been industriously propagated in the public prints; but, as Dr. Watkinson says, it nauseates the stomach, and is at best but palliative; take it in the prescriber's own words: *Spermaceti,*

ceti, loaf sugar, each one ounce ; oil of aniseed, 120 drops ; mix and take a scruple : this is so much over-loaded with the chemical oil, that the infant's stomach could not possibly bear a repetition. The following one is excellent for the disorder in contemplation :

Take cream of tartar, fenna, jalap, each in fine powder, two drams ; conserve of hips, one dram ; chemical oil of nutmegs, eight drops ; balsamic syrup, to make an electuary. —A small knife pointfull taken night and morning, is of an undoubted efficacy ; and must be continued till it has produced the desired effect.

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ART. XII. *An easy method to prevent the fatal Accidents that happen to Persons by Foul Air in Wells, &c.*

**W**HEN a well, vault, or drain, has been inclosed a considerable time, to disperse and rectify the suffocating air, at first opening, throw down six or more pails of water ; and after waiting a quarter of an hour, any one may safely venture down.

N. B. The like method should be observed in sinking new wells, especially if the work has been discontinued any length of time, and is now constantly used by one whose profession subjects him to accidents of the like kind.

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ART. XIV. *To raise good White-Thorn Hedges.*

**H**AVING already given Mr. Boutcher's method of raising the plants from seeds, we now proceed to make some practical remarks on his method of treating the plants till they are fit for what he calls " fencible hedges."

" In October the thorns should be planted out in lines, at least eighteen inches asunder and six inches in the line, their roots having been shortened, and their tops cut off, so as to stand four or five inches above ground when planted. In this nursery they should remain no more than two years, and the ground ought to be dug both in autumn and spring between the lines ; it will likewise much increase their rooting abundantly, as well as promote vigorous clean shoots, that, the year after having been planted in this nursery, they be again cut over an inch or two above the former cutting.

" In Autumn, remove these to another quarter, and plant them in lines four feet asunder and two feet distant in the line : Let them now be cut to the height of a foot or fourteen inches, and, about the end of June, clip them straight in the sides and thin in the tops. Having stood here a year longer, cut them again to the height



height of two, or two and a half feet, as, from a favourable or bad season, their shoots have been more or less vigorous, and clip them as formerly. The ground having been of a good quality, and properly cultivated, the third season, they will admit of being cut at three and a half feet high about Midsummer, and raised the following autumn, when they may be planted handsome hedges about four feet high, that will at once afford both pleasure and shelter.

“ But to bring them to the last degree of perfection, let these be once more removed with bulks of earth, which they will naturally have, if carefully and skilfully raised. For this purpose, let a trench on each side be dug up considerably deeper than the spreading roots, and, with a sharp hedge-bill, cut across all the downright ones, which, from the former transplantations and proper dressings, will not be many or strong; but, while this is performing, let the plants be held steady from the opposite side, which otherways, by shaking, would occasion much of the earth to moulder away. This being done, lay them softly down on one side, and with a sharp knife smooth the extremities of their roots, equally shortening those that are downright or too spreading. Let straight trenches now be ready to receive them at eight, or, where land can be spared, ten feet asunder; in these trenches let them be placed the same depth they formerly stood, and at four feet distance in the line, giving them an abundant watering; cultivate the ground about them, which may be crop'd with various kitchen herbs, and here let them remain three years, clipping, and in all shapes dressing them to their proper form, as if planted out for good.

“ Early in October, while the ground is warm, begin planting these hedges where they are meant to remain. To effect this properly, throw out a trench as formerly, but both wider and deeper than to contain the roots: If the ground is poor and thin, lay a stratum of any middling fresh soil at the bottom of the trench six or eight inches deep, or, where your situation will admit, the more the better; and having levelled the trench to a depth suitable for receiving the plants, let the earth settle for some days, that it may not afterwards subside in any material degree. In the mean time, before raising the hedges you intend, go over them with a light sharp hedge-bill, and cut out all such branches, particularly towards the top, as are too thick crowded together; cut them to your desired height, not exceeding six feet high; then raise, and plant them as directed for the former removal, at such distances as to join entirely close together: let them have a plentiful watering at planting, and repeat it three or four times during the dry spring and summer months, when, after being established one year, they will resist the rudest attempts of the wildest animals in the country.”

[This is undoubtedly one of the most tedious and most expensive methods of raising a white-thorn hedge that ever was invented, and what we believe no gentleman nor farmer will ever adopt. We have seen as good hedges as those now described by Mr. Boutcher,

Boutcher, that were raised in less time, without so many repeated transplantations and cuttings over. In short, it would hardly be possible to put his method in practice where the common fields to be inclosed are either very extensive or numerous.]

“I cannot leave this subject (says he) without taking notice of, and warning against the baneful practice of almost universally clipping our hedges thick, and broader at top than bottom. This, in my time, has rendered of little benefit the greatest part of the fences within my knowledge, which, properly trained, would have been the highest ornament, and most solid improvement our fields are capable of receiving. How a practice so glaringly opposite to nature, [and even] common sense, should be adopted in a country devoted both to the study and practice of planting, is strange to imagine! but unluckily it requires no proof that such is the case. The underparts of the hedges so trained, are quite deprived of the benefit of the rains and dews, those indispensable supports of their strength and verdure, and are in some degree smothered, from whence the weakest branches annually perish, till at last the bottom becomes quite naked, which no future care or industry can repair but by cutting them over, or at least reducing their height, and pruning them close to naked trunks. This, tho’ a certain, is yet, a tedious cure; and to expose one’s fields to their original cold and defenceless state, after for many years bestowing as much as, properly applied, would have made them continue beautiful and sensible for ages, must be a mortifying circumstance to any man, but, the shortness of life considered, doubly so to one advanced in years: Let it then be invariably observed, from the first clipping, till your hedges arrive at their intended height, that you make them gradually taper from the bottom, till they become quite sharp at top, in form of a razor. This too is saving money, as the apparatus of standing ladders, scaffolds, &c. necessary for cutting the tops of high hedges, becomes expensive, and, with the hands required constantly to move them, will cost much more than clipping both the sides, which can easily be performed, to the height of fifteen feet, by a man standing on the ground, with the assistance of spring-shears.

Many have been the arguments with men of more words than reflection and observation, whether or not it is necessary to continue the practice of clipping hedges till old, where ornament is not required, and that are only the boundaries or divisions of corn or grass fields. Good gardeners, I am well persuaded, never disputed on this subject; for, if the greater warmth hedges afford to the grounds around them constitute their greater value in this cold climate, I should think no sensible man can hesitate to give an extraordinary preference to those that are clip’d; the reasons for which are too apparent to require further explanation. I have never seen hedges, growing for a number of years rude, that were either warm in winter, or close at bottom, which proceeds from a natural cause.

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The Thorn-tree, when under no discipline, grows in a loose ragged manner, with heavy and spreading tops, which, for want of air and moisture, destroy many of the under branches, and when planted in loose or wet lands, the winter winds displace and disfigure them extremely; so that, all circumstances considered, I could never discover any well-founded argument against clipping them but the expence, which, if annually done after a proper manner, in the months of July and August, will be small in proportion to the pleasure and benefit you will otherways derive from them."

[Could these instructions be possibly intended for Farmers?—The following ones are however excellent.]

Digging and keeping clean a border on each side of your hedges, at least for a few years, will also be well-bestowed labour, as it will much accelerate their growth, and contribute to their speedily thickening at bottom.

Many improvements may likewise surely be made on common practice, in the disposition and manner of planting our young thorn hedges. Some lands indeed are so thin and meagre as not to produce tolerable fences without a greater depth of soil, but hardly any are so bad, (very wet grounds excepted) as not to nourish thorns in such a degree as to become fencible, by an addition of soil, tho' of the same quality, well blended together, and exposed to the summer's sun and winter's frost.

I cannot help taking notice, that the common method of laying our thorns on the sides of banks above ditches, and raising bulwarks of turf over them, is an absolute opposition to every principle of nature I am capable of discovering. I have often been told, but was never in the least convinced, of the utility of this practice; nor can I possibly believe, that a plant compressed in this manner, without its roots readily partaking of the heavenly influences, can be equally nourished with one growing on a level loose surface that freely enjoys them all. But without further endeavouring to demonstrate the absurdity of hedges in this situation, let us see the effects of it, and let any considerable extent of such that are warm, light, and fencible, argue in their defence. On this appearing, I shall gladly acknowledge my error. In the mean time, I can show, in most counties of the kingdom, large tracts of land so inclosed, and where, in the most considerable estates, there is not a single park that will confine cattle, without many gaps being made up with paling, or dead brush-wood, the last of which increases the evil, as nothing is more contagious to the living branches than being mingled with dead ones; neither can hedges so planted, be with ease clipped from the bottom of the ditch, nor when any of the plants perish, can they again be properly inserted. But what is worst of all, if the soil is not an obstinate clay or till, the earth annually moulders away: so that, in a few years, one side of their roots are left naked and exposed to the weather, whence too, from the weight of the tops, the winds often bring down both hedge and bank,

bank. In short, from the general survey I have made over most parts of the kingdom, I cannot help thinking that method of inclosing has more retarded the advantages which must have arisen to judicious farmers from a better system, than all the other blunders I know put together. It has likewise, by exhibiting a bad example, deterred many from inclosing at all, and put others on building stone-walls at great expence, though neither so beautiful, nor improving to the fields around, as lofty hedges well trained. I shall therefore endeavour to give a few hints, that if skilfully executed will certainly promote their usual growth and thickness, and that at little, if any greater expence than attends the common practice.

"In order to inclose a dry thin soil, mark out the sides of your ditch four feet wide; raise the turfs from the surface sixteen inches square; leave a scarfment of eight inches within the top of the ditch; and lay them with the green side downwards; three rows of turfs will exhaust the surface of the ditch, when lay a line of sweet-briars three or four years old, (that have been transplanted), from a foot to eighteen inches asunder, and cover them with the best earth below the turf, laying the remainder, so far as good, immediately beyond their roots, so that a deep border of the best soil that the place will afford, to be afterwards planted with thorns, may be formed. Procure turf from the adjacent grounds, till you raise the bank eighteen inches higher, and lay another line of sweet-briars, placing them so that every plant may be above the interstices of the former line. These being also properly covered, finish your ditch to the depth of four feet, and as narrow at bottom as a man can stand to heave the soil over the bank. Proceed then to compleat the bank, which, for an immediate outward fence, ought to be four feet high; and lay the highest row of the turfs with the green side upwards, which will soonest make them unite, and consolidate the whole. The common practice is to make these banks slope in the same proportion the sides of the ditches do; and the argument for it is, that they stand the weather better. But if the turfs are well laid, & soundly clapped together with the back of a spade, there is not the smallest danger of their failing at that height, and therefore I would advise them to be laid within six or eight inches of being perpendicular. My reasons for which are, that I mean this bank, with the sweet-briars planted on it, as soon as possible to hang over that side of the ditch under it, to prevent violent rains from washing it down, and which, by giving it the usual slope, cannot so soon be affected. It will also be a better defence against cattle, who often make attempts to get over ditches and banks that have too easy a slope; but from this position they have no footing, and when the sweet-briars are grown two years, cattle in the bottom of the ditch cannot raise their heads without being opposed by them, which they will not attempt a second time. A sheep-park thus inclosed, will, in three or four years confine these animals no less effectually than the highest walls, as they, and indeed horses or cows, cannot bear the touch of them. No person in ordinary circumstances need scruple



ple the expence of the sweet-briars, as there is not any plant more easily or expeditiously raised; but if you have them not, and do not chuse the trouble or delay of raising them, they may be purchased for a few shillings per thousand. The briars abound with so great a quantity of penetrating roots and fibres, as soon to render any bank they are planted on, impenetrable as a wall, and there is no plant yet discovered so proper for filling up the gaps of old hedges of all kinds, where plants of the same sort with these hedges will not succeed. But I shall proceed to the inner side of the bank.

“ Having furnished this with the best earth you can procure, slope it so gradually as that the rains may not wash it down, to about three feet below the level of its top, which is allowing a foot of forced soil above the surface, for a border to receive the thorns. This border should be at least two feet broad within the hedge, and made hollow, the better to retain the moisture. On this plant your thorns in thickness proportioned to the size of your plants; for the common run of thorns three or four years old, six inches distance is the general rule, but for stout ones that have been twice removed, and consequently have abundance of roots, a foot will be close enough. These thorns ought not to be planted upright, but should be laid as near as may be in a horizontal position, so that the top of the one extend as far, and be just above the root of the other. This method of planting, in place of a few vigorous rambling shoots from the top of the plant, which is usually the case with such as are planted perpendicular, will make them brush from the bottom like a fan, and in two years, by keeping them as has been directed, they will be so close that a small bird cannot get through them. But let it be observed, I do not mean this to be practised in the nursery, nor even in the field, for such as are above six or seven years old, or that are planted above the height of two, or two and a half feet high, as this oblique position, in large brushy plants, will not admit of their roots having the same stability to resist the winds as those placed upright.

[We cannot conceive why he recommends laying the plants in an *horizontal* position, when he is eternally complaining of systems, and practice, and methods, that are *unnatural* and absurd. Besides he has been strongly recommending one method as the best and founded on his own experience; and now he has presented us with another that is greatly superior, and which will in two years make the hedges so close that a small bird cannot get through them.]

“ The different sizes of thorns, to procure fencible hedges sooner or later, has already been mentioned; and it must be left to every man to judge for himself, what money or labour he chuses to bestow. Therefore I shall only say, that an old thorn is hardier than a young one, and will succeed in coarse obstinate grounds, where the other will perish; to which I may add, that the difference of expence between those of three and six years old is nothing, as, allowing the oldest

eldest to be double the price, they will go double the length. In unkindly soils, what I have here said, I know experimentally cannot be justly refuted; but it may be returned, that small thorns planted in good soil, at the same distances they ought to stand when older, will in time make equally good hedges. This I must grant, but the difference of expence can bear no proportion to the advantage of having a good fence three or four years sooner, and saving the expence of culture for that time, which for small plants is much greater than large ones; so that in the main, I cannot think any circumstance, but that very bad one of poverty, should justly excuse a man who plants small thorns, where large ones are to be had at a moderate price.

“The same rules directed for training thorns in the nursery, to be afterwards planted at the sizes of fencible hedges, are to be continued progressively, when planted out for good in the fields, *ever after*.

“If it is objected, that I have excluded thorns from being planted in the banks above ditches, and yet directed sweet-briars there, to the reasons already given I shall only add, that the sweet-briar is an exceeding hardy plant, and will succeed in many soils and situations where thorns will not; and what is more material in the present case, is, that being a dwarf light shrub, they never arrive to such a size or weight, as to be affected by the winds in any degree that will in the least loosen or shake the banks; which is too frequently the case with thorns.

“Of all the devices yet fallen on for planting hedges, none are so natural, and effectual for the inward divisions of dry ground, as that of doing it on the surface of a well-dug, or trenched border, thickened where the soil is thin, or mellowed by labour and warm loose earth, where cold and stiff. Next to that, both in point of beauty and utility, is on the top of a sunk fence built with stone; but even there, though for several years they will grow much about as fast as on a level bottom, yet, when the roots approach the wall, they are of consequence retarded in their progress on that side, and will not afterwards grow with the same luxuriance as on the surface unconfined on both sides.

“Where hedges of uncommon strength are required, I know nothing so effectual as double lines, planted in the triangular manner; so that the plants in one line may be directly fronting the interstices of the other. — These plants too, growing in concert, afford a mutual aid by sheltering each other, and will for several years grow faster than a single line.

“Standards of all kinds in hedges are highly destructive, as, by hanging over, they smother the plants below, shake them, and in all respects rob them of much nourishment.

“Hedges that have grown any considerable time wild and uncultivated, must necessarily become ragged and open. To remedy this, the common way to make them become immediately fencible, is plashing them; and where they are not above ten or twelve years



growth, I have known such become tolerable fences, when not too much wogaded, (the common error) has done with skill and attention, being regularly clip'd afterwards; but if they are not taken about that age, the severity of the wounds, necessary to make them comply with their proper stations, are so great, that in a few years many of them die, and becoming full of gaps, are more unsightly, and less serviceable than ever; whence the advantage is of short duration; and the remedy becomes worse than the disease. But the only method of cure I can devise, and which I have often successfully practised for old over-grown thorn-hedges, is to prune them close to their bodies, and cut them over smoothly a good deal standing, to the height of about four feet, and supply the gaps with old hollies, if to be had, or, failing those, with strong plants of sweet briar, both of which ought to be divested of great part of their branches, which will make them push out a greater number of young ones more vigorously, resist the winds, and sooner become strong equal fences.

Mr. BOUTWELL, like many other writers, seems to know but little of the principle or true reason why hedges decay after plashing. They universally attribute it to a too liberal use of the bill-hook; but this is a mistake. It is not owing to the wound from the bill-hook, but to improper force used afterwards in bending down the plants, so that the bark is wounded or separated from the remaining part of the stem; in which state it is impossible for the sap to ascend, and then the plant inevitably dies. But on the other hand, if care be taken neither to wound or bruise the bark, nor to separate it from that part of the stem which remains undisturbed, however small (in reason) it may be, the hedge will grow and flourish anew.

This subject, being an important one, will be continued with extracts from other authors, and from the whole will be deduced a cheap and easy method of raising good white-thorn hedges founded on experience. But it has been thought necessary to give different opinions with remarks, that are of a practical nature; that our readers may judge for themselves.

#### ART. XV. . *The Propriety and Advantages of Inclosing Common Fields, considered.*

Mr. SYLVAN,

HAVING been a constant purchaser of the *Farmer's Magazine*, I have an inclination to publish in it a few thoughts relative to the propriety and advantages of inclosing common fields, an interesting subject both to individuals and to the community at large, and which hitherto, I think, has not been so much as mentioned by any of your correspondents. Perhaps few subjects have occasioned more or greater altercation and disputes (for which I profess myself an advocate) have been as strongly reprobated by some, as they have been extolled

extolled and recommended by others. Many of the objections to inclosing common fields are popular: they are likewise easily made, and with seeming difficulty disproved, because the answers depend much on reasonings and calculations, which the lower popular class is not so well able to comprehend. The most popular objections seemed formerly to receive some weight from the interposition of the legislature; for not only a stop was put to inclosures, but all the new inclosures were likewise ordered to be thrown open. But then it should be considered, that this was a step frequently taken by the minister, to ingratiate himself with the multitude, when his power or authority became precarious. A retrospect to the times of Cardinal Wolsey, and Edward Duke of Somerset, the Lord Protector, will abundantly confirm this opinion. But whatever doubts may have arisen in the British Senate concerning the utility and benefit of inclosures, they are now pretty fully removed, and the numerous acts to inclose common fields every session, sufficiently shew us the sense of the legislature concerning this matter.

Fitzherbert, Tuller, Bith, and in short all, or at least the greater part of our modern writers on husbandry, were strenuous advocates for inclosures; they think they can never say enough in favour of the improvement arising from inclosures. Fitzherbert's book is become extremely scarce; and perhaps a quotation from it may please many of your readers; they may probably be much entertained with the sentiments of a Judge of the Common Pleas, who flourished in the reign of Henry the eighth, and practised the art of agriculture forty years; and who is justly stiled the *Father of English husbandry*. One may say of Fitzherbert's husbandry, what Sir P. Sidney applied to Chaucer's Poetry: "I marvel how in those misty times he could see so clearly, and how others, in such clear times, could go so blindly after him."

"It is undoubted, (says Mr. Fitzherbert,) that to every townshipp that standeth in tyllage in the playne country, there be arable lands to plow and sow, and common pasture to keep and pasture their cattle, beasts, and sheep upon; and leyse (or ley ground, which is grasse that has been laid down) and also they have meadowe ground to get their hay upon. Then to let it be known how many acres of arable land every man hath in tyllage, and if they lie not together, let him change with his neighbours till he can have them all together, and make him one several close (field or inclosure) for his arable land; and so for the leyse (ley ground) to lay them together in one field; and also an other several close for his portion of his common pasture, and also his portion of his meadowe in a several close by it self, and all these fenced and kept in several, both in



in winter and somer: and so every cotage shall have his portion assigned him according to his rent, and then shall not the rich man overpress the poor man with his cattel, and every man may eate (feed with cattle) his own close at his pleasure; and undoubtedly, that hay and straw that wyll find (feed or serve) one beast in the house, wyll find (serve) two beasts in the field, and better they shall like. For these beasts in the house, have short heir and thinn, and towards Marche they will pylle (shed their hair) and be bare, and therefore they may not abide in the field before the herdman in winter tyme for cold; and those that lie in a close, under a hedge, have long hair and thyeke, and they will never pylle, nor be bare; and by this reason the husbände (farmer) may keep twyse, so many cattel as he dyd before.

"This is the cause (advantage) of this approwement (improvement) every husbände hath six several closes, whereof three be for corne the fourth for his leyse (ley ground) the fifth for his common pasture, and the sixt for his hay; and in winter tyme, there is but one occupied with corne, and then hath the husbände other five to occupy till lent come, and then he hath his salowe field, his ley field, and his pasture field all somer; and when he hath mowen his medow, then he hath his medow ground also; so that if he have any wayke (weak) cattel, he may put them in any close he will, the which is a great advantage; but yf all shoold be common, then would the edyshe of the corne fieldes and the after-moth of all the medows be eaten in ten or twelve days: the ryche man then that hath moche catel would have the advantage, and the poor man can have no helpe nor releife in wynter when he hath most need: so if an acre of land be worth six pence, when it is not enclosed, it will be worth eight pence when it is enclosed, by reason of the composting and donging of the catel, that shall go and lie upon it both day and night.

"And if any of his three closes that he hath for his corn, be worn or wax (grow) bare, then he may break and plow up his close that he had for his leyse, or the close that he had for his common pasture, or both, and sow them with corn, and let the other lie for a time, and so shall he always have rest ground, the which (when it comes to be renewed) will bear moche corn, with litell donge; and also he shall have great profit of the wood in the hedges when it is grown; and not only these profytes and advantages before said, but he shall save much more than all those: for by reason of these closes, he shall save meat, drink and wages of a shepheard, the wages of the herdman, and the wages of the swine-herd, the which may fortune to be as chargeable as all his whole rent; and also his corn shall be better saved from eating or destroying by catel. For doubt ye not but herdmen with their catell, shepherds with their sheep, destroyeth moche corn, the which the hedges would save. Paradvventure some men would say, that this would be against the commonweale, because the shepherds, herdmen

\* Here the old custom appears of granting leases on condition, that but one crop of corn shall be raised in three years upon the same piece of ground.

herdmen, and swine-herds, should then be put out of wages. To that it may be answered, though these occupations be not used, there be as many new occupations that were not used before, as getting of quicksets, ditching, hedging and pleshing, the which the same men may use and occupye; also it may fortune, men wyll say, that if all should be enclosed, that there wold be many foule lanes as there be in Essex, but for that there may be a provision, and that is thus: Where the king's highway is, if it be dry grounde, stoney grounde, or sandy grounde, in all such places may be lanes made of a convenient breade (breadth) for the king's people to passe through with all manner of carriage: and where it is softe grounde lying level, that waters will not pass (run off) by the dytches, then at every hedge that goeth overthwart (across) the hyeway there to make a gate, and stone it or gravel it in that place, and then hath every man the whole close, to ride, carry, or go in as they had before; likewise as they do at the Wynd-gates going to Thorley in Lancashire, and likewise from town to town; and as for their own drift lanes in their closes, let them make them for their own ease, as they will have them.

"The most indifferentest mean to make these approwments, as me seemeth, is this. All the lords (landlords) of one town, be there never so many, should be all of one assent; that their tenants should exchange their lands one with another, and the said exchange to stand and endure for ever; for doubt them not, but they know it best, and every tenant for his own advantage will do it indifferently, and the curate of the same parishe for his part; and every lord's bayley to be indifferent to see these closes lotted and assigned to every man's ease, so that every man may have a croft or close next to his house, if it may be.

"This done, let every lord by his copy of court-rolle, or by indenture, make a sufficient lease to every of their tenants, to have to him, to his wife, and to his children, so that it pass not three lyves (lives) the persons then being alive and named, yielding and paying to their lords, and to their heirs, the old rents and services before due and accustomed, during those three lyves, upon this condition; that they shall do or cause to be done, during their lives, sufficiently to quickset, dicke, hedge and plash, when need is, all the said closes, and so keep them during their lives, the which will be a charge to the tenants; but yet me seemeth they may well do it, if they intend to thrive, and specially if they do regard the profits that may come to them afterwards; for *levius est labor, cum lucro*, i. e. it is never laborious to gather riches.

The intelligent and discerning reader will perceive, that this early writer, (for he published in 1534) in point of good sense and judgment, does not suffer in comparison with our modern authors, who have written and published so much in behalf of inclosures. There is, however, a vast difference



rence between the value of land and money in his time when compared with ours. He talks of land worth *six pence* an acre before it was inclosed, that would be worth *eight pence* afterwards. But I must conclude, or you will think my letter too long, and I will (with your leave) resume my subject in your next number.

I am, &c.

Jan. 20th, 1777.

S. G.

[We earnestly wish this correspondent to continue his observations, and shall esteem it an additional favour, if he will extend his remarks to the necessary qualifications of Commissioners and Quality-Men.]

ART. XVI. *Useful Forms in Conveyancing, &c. for Men of Business. Continued.*  
*Of Promissory Notes.*

A Promissory note is given as a security for the payment of money, the delivery of goods, &c. at some particular time mentioned in the note.

The words *value received* are absolutely necessary in the note to give it validity in a court of judicature; except the thing for which the note is given be particularly mentioned.

If the words *or order* be inserted, it then becomes negotiable; and the possessor or holder of the note may indorse it, (which is done by writing his name on the back of the note) and then pay it away as cash to a third person. If the words *or bearer* be used instead of *or order*, it is unnecessary to indorse it. But if neither of these be written in the note, the possessor cannot negotiate it in trade.

Care should always be taken to express the sum in words at length, as already observed in the directions given for writing receipts.

*Promissory Notes that are not negotiable.*

London, Jan. 20th, 1777.

I promise to pay to Mr. James Stewart, on demand, Ten Pounds, value received.

A. SYLVAN.

£. 10 0 0

London, Jan. 20th, 1777.

I promise to pay to Mr. James Stewart, one month after date, Thirty Guineas, value received.

A. S.

£. 31 10 0

Sometimes, through haste, a note is drawn without inserting the words *on demand*, or fixing any time for payment; in which

the money is payable on demand; it is therefore best to use them to prevent mistakes, it being now so common since they are negociated like drafts to mention the time of payment.

N. B. Notes on demand carry interest, though it be not mentioned.

*Promissory Notes that are negociable.*

*London, Jan. 20th, 1777.*

Ten Days after date I promise to pay to Mr. James Stewart, of order, nine pounds, seven shillings and sixpence, value received.

£ 9 7 6

A. S.

£50.

*Bristol, Jan. 20th, 1777.*

One month after date, I promise to pay to Mr. James Stewart, or order, Fifty Pounds, value received, at Mr. Robert Temple's, Grosvenor-street, London.

A. S.

£21.

*Bristol, Jan. 20th, 1777.*

Seven days after sight I promise to pay to Mr. James Stewart, or order, Twenty Guineas, value received,

A. S.

At Mr. James Crandon's, No. 10,  
the Inner Temple, London.

Promissory notes are sometimes given by clerks or servants to eminent tradesmen, &c. and sometimes a note is given as an acknowledgement for the receipt of goods, writings, &c. they likewise vary from the foregoing forms.

E X A M P L E S.

£39 15 0

*London, Jan. 20, 1777.*

I promise to pay to Mr. James Stewart, or order, Thirty-nine Pounds and Fifteen Shillings, in March next, for value received.

A. S.

*London, Jan. 20th, 1777.*

Received of Mr. James Stewart, a Bill of Exchange,—or a Gold Watch—which I promise to return or to be accountable for on demand.

A. S.

£100.

*London, Jan. 20, 1777.*

Thirty days,—or six weeks,—or sixty-days, (as the case may be) I promise to pay to Mr. James Stewart, or order, One Hundred Pounds, for my master, or father, Mr. John Stone, value received.

A. S.

Notes that are negociable are, like drafts, payable three days after they become due; and if not then paid are to be carried to the office of a public notary and protested; though it is not customary to protest a note or draft of less value than

2 F

twenty



twenty pounds. Some tradesmen prefer the form of promissory notes, because it saves the trouble of acceptance, &c. besides they can then remit effects to their correspondents in order to take up their notes if they have not effects sufficient in hand. Notes however, which are drawn at seven (or any number of) days after sight, are acceptable at the houses where they are made payable, the same as drafts. And in order that the notes of country bankers may be negotiable as well in the places where they are drawn, as in London or elsewhere, the following form of their notes is now pretty generally adopted:

*Bath and Somerset Bank.*

I promise to pay to Mr. Agricola Sylvan, or bearer, Ten Guineas, on demand; or seven days after sight, at Messrs. Browns, Collinson, and Tritton's, in London, value received, the 1st of February, 1777,

For Horlock, Mortimer, Anderdon, Goldney, and Self,

£. 10 10 0

WILLIAM STREET.

We shall resume this subject in our next, and then explain what is meant by indorsement, acceptance, usance, days of grace, and protesting.

### CORRESPONDENCE.

WE shall now endeavour to do justice to our Correspondents' favours.

The plate for the newly invented Roller for land will be engraved for the next number. We are much obliged to Mr. Hinde for it.

The *Farmer's* objection to our instructions for Turf-draining is, we think, ill-founded. We did not fix upon any size either for the breadth or the depth of the drains, but left it to be varied at pleasure; it being only necessary for us to mention such as we thought generally practicable to illustrate the engravings. But he says, "the cattle will tread them in unless they are made stronger and deeper." And so they will, even when they are made both stronger and deeper, unless they are made so as to drain the land effectually; and we beg leave to say, that the same objection, in part, lies against all covered drains; for while the land continues wet, and springy, the cattle will tread and poach it in spite of the drains, (whether covered or open.) But having a letter to insert, with some useful remarks on the subject of draining, which we intend for our next number, we shall add no more at present.

The other *Farmer* strangely mistakes Columella's letter in the Third Number. He does not say that rotten dung breeds the worms, but

but that it is never free from them; and does not every one know this? Columella tells us, that he has seen large tracks of land that abound with grubs, on which the Farmers find by experience long litter dung to produce better crops of wheat than rotten dung. And we will now add, that we are acquainted with several large Farmers, who are of the same opinion, giving this for their reason, "that the worms finding the rotten dung sweetest, follow it to the roots of the wheat."

We shall make no apology for giving the following letter at length:

SIR,—Having been a constant purchaser of your Farmer's Magazine from its first publication, I am much interested in its success, esteeming it to be a very *Useful Family Companion*, and that a periodical work of this nature, as a General Repository for essays in Husbandry and Housekeeping, is exceedingly necessary.

"Give me leave, as a well-wisher, to hint that, your plan is rather too concise as extant for its title. It never will, (however deserving) fill the shelf of a Little Farmer, or enter the library of a Petty Housekeeper; for many reasons, you should therefore adapt it for the use of those who will most readily encourage it, from the benefit they receive by an extensive practice in those grand branches of Oeconomy.

"Make it therefore a grand Repository—augment its pages—enlarge it to a Quarto—colour from nature your plates of Natural History—attend constantly to the proceedings of the Societies at home and abroad, instituted for the encouragement of Agriculture, Oeconomy, and Commerce, and be the Vehicle of their discoveries—let it cull and present us (but not so as to exclude any valuable essays sent in) the best of what is already extant on these subjects—hesitate not at being sometimes minute (if not trite); the King's dominions are not equally flourishing in these useful arts, witness America.—Poetry is useless, it is not in your work to be sought after—neither is Politics or News:—Farming and Housekeeping, with their best methods, machines, authors, discoveries, and improvements, are your objects only.—With these in view, your price ought reasonably to be increased, and will most willingly, I dare say, be paid, as your labours would then be a valuable and beautiful ornament to the collection of the theorist or practitioner, and with the help of a complete Index to each volume, be a ready counsellor, in time of need, to every family in town and country.

"Before I conclude, I would fain hope, the common fate of most of the Monthly Productions in Literature will not attend your's; that is, of degenerating from their first essays, and becoming a mere heap of waste paper with the public.

"Wishing you success, I am with regard, your humble servant,

Nov. 3, 1776.

*A British American."*



"A work similar to the above is much wanted in America; our publications are few, we have need therefore of an Instructor, who will proceed from the minutiae to the whole practice: and the progress we make is for your advantage finally."

[This Gentleman's other Letter is received.]

Another Correspondent, who writes much like a gentleman, (his signature L. M.) recommends to us to give,

1. A sheet of the Dictionary every month.
2. An abridgment of all the good pieces that were published in the *Museum Rusticum*; to be continued monthly in eight pages.
3. An account of such new plants capable of bearing our climate in the open air, as have been introduced since the last edition of Miller's Dictionary, with the method of their cultivation.

Willing to please, we shall leave these hints to the consideration of our readers; and such as appear to them to be the most eligible, and at the same time subservient to our plan, we shall readily adopt.

END of the FIRST VOLUME.



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## E R R A T A.

Page 379, Art. 8, read "Plough *with* two mould boards."  
 389, line 21, read "*ancient* writers on husbandry."



T H E  
FARMER'S MAGAZINE.

+++++  
A DISSERTATION on the Progress and present State of  
AGRICULTURE. [Continued.]

*American Husbandry.*

THE signal and solid advantages which have arisen from our colonies, are by no means such as were primarily expected. Nothing less was dreamed of than finding regions full of rich mines, or that abounded with valuable spices; but by the kind interposition of heaven these aims were disappointed, and we were led, as it were by the hand, to schemes of more utility and much more emolument. The countries we found afforded no valuable metals, but they furnished plentiful employment for industry; and this has been followed by lasting and increasing profits. This has gradually reconciled us to that lot which had been assigned us, and we have continued to prosecute that plan, which an all-wise Providence pointed out: and we cannot help observing, that the state of our colonies, compared with those of the Spaniards, clearly demonstrates, what, from its great importance and utility, we have often insisted on, that it is INDUSTRY alone which constitutes national wealth.

The coast of HUDSON'S BAY is the most northern part of America, on which at present any British subjects are settled. It extends from fifty to near seventy degrees north latitude; though the boundaries on the north are not well defined, at which we need not wonder, the climate being so intensely cold. The Bay is not free from ice more than two months in the year; the land of course is generally barren, though at the bottom of the bay there are some trees and herbage.

Inhospitable



Inhospitable as this country may appear, it is well supplied with fish, flesh, and fowl. Flour, biscuit, and other necessaries are sent annually from England to those who remain there in the Company's service; the property of the soil, and an exclusive right to the trade, being granted by a charter from King Charles the second, in which it is styled *Rupert's Land*.

The trade is generally supposed to be very lucrative, and to be carried on with little trouble, the savages resorting thither with furs, castor, and other goods in their own canoes in great numbers every year; these commodities being sent home in the Company's ships, produce very large sums at their public sales. It is said that if trade was laid open, our exports thither might be exceedingly enlarged, a very extensive and lucrative fishery carried on, much greater quantities of furs and peltries imported, and that many other benefits might accrue.

LABRADOR, or NEW BRITAIN, is a country of great extent, and thought to be inhabited by the Eskimaux. It lies from fifty to sixty-three degrees north; but those who have visited the coasts assert, that the climate is somewhat milder, and the soil rather better than in the country we have just before described. It is also said to produce most of the necessaries of life, if we except corn; and though no settlements (if we except the Moravian Missionaries) have been hitherto made, yet the fisheries upon its coasts have been very plentiful as well as profitable; and it has been suggested, that if it should be found practicable to settle thereon, whale-oil, whale-bone, and other things might be prepared there, which would save a great expence, and enable us to import such commodities much cheaper.

In fact we know so little of New Britain, that we cannot so much as tell whether it is a continent, or composed of several islands, the latter being at least as probable as the former. It is not always the beauty or the fertility of a distant country that should recommend it to a trading nation; and of this we may assert New Britain to be a proof; for, without exporting any thing thither, without having any settlement, there hath been brought from thence to the value of fifty thousand pounds in one summer. The Eskimaux, who sometimes visit Newfoundland, have their habitations in this country: They live in the open air during the summer, and in caverns during the winter. It is worth observation, that these people are completely clothed. They have shirts made from fish-guts, breeches of skins with the hair turned inwards, a kind of coat  
or

or cloak of bears skin, and their shoes or boots of seal skins; whence their skin is of the same colour with ours. If these people were civilized, might they not wear our coarse cloths, hose, and linen? and might they not pay us in furs and peltry, in whale-bone, whale and seal oil, and seal skins? and would not this be a profitable trade?

NEWFOUNDLAND is an island, in form of an irregular triangle, not much unlike England. And is generally supposed to be as large, if not larger than Ireland.

It lies between the latitudes of 46°. 50'. and 51°, 30'. The climate, though severe enough, is more temperate than in either of the other countries we have described. The soil, at least on the sea coast, which is all that we know of it, is poor and barren; a few kitchen vegetables, with strawberries and raspberries, are all its produce. The country within land is mountainous, and abounds with timber, and the rivers are plentifully stored with several sorts of fish.

The great importance of this place arises from its fishery, which is in part carried on by the inhabitants, at the several harbours, who take vast quantities of cod near the coast; which they bring in, and cure at their leisure, in order to have it ready for the ships when they arrive: but the great and extensive fishery is on the banks.

The cod are caught only by the hook, and an expert fisher will take from one hundred and fifty to three hundred and upwards in a day, for the fish never bite in the night. They are cured different ways, but the dried cod are the best and more valuable. The quantity taken is prodigious, yet varies considerably, as the fish frequently change their stations.

The great utility of this fishery was very early seen and very vigorously pursued; for one hundred and seventy years ago, we had two hundred and fifty sail employed therein. The fishing ships lie upon the banks, and with the help of their boats take and cure their own fish, and, as soon as they are full, sail for a market. The principal markets for cod are Spain, Portugal, Italy, and the West-Indies. The annual value of this fishery is computed at some hundred thousand pounds; employing besides several hundred ships, some thousands of seamen, (for which there cannot be a more noble nursery) and affording a maintenance to a number of tradesmen of different occupations, by which many large towns on the west side of England accumulate wealth; and at the same time contributes in many respects to the benefit of the public.



We shall now proceed southward to Canada and Nova-Scotia where the climate is milder, and where most of our useful vegetables are cultivated.

CANADA, or the PROVINCE OF QUÉBEC, was by the French called *New France* and *Louisiana*. Canada is an Indian name, and derived from Kannata, which in the Iroquois language signifies a village, or a number of cabins. It is a very extensive country, being computed to be eighteen hundred miles long and twelve hundred broad. In so vast a country the climate must be very different; but yet the whole of it in winter is exceedingly cold. The river St. Lawrence is usually frozen over eight months in the year; but during this long winter, the weather is as wholesome and as pleasant as we can suppose it to be, where the cold is so inexpressibly severe.

The soil in general is fruitful, and when duly cultivated produces every thing requisite to subsistence, corn in great plenty, a great variety of vegetables, and those excellent in their kind, some fruit trees, as apples, pears, plums, and cherries, an immense quantity of excellent timber, and many trees and shrubs of great use in dyeing, and in medicine. There are also very rich mines of iron and copper. There is no country in the world happier than this in water carriage, for besides Lake Superior, the Lake of the Illinois, Lake Huron, and Lake Erie, which communicate one with another, Lake Ontario and Lake Champlain, which both discharge their waters into the river of St. Lawrence, there are many other lakes and rivers that water all parts of the country. The city of Quebec, the seat of government, stands about one hundred and ten leagues from the mouth of the river of St. Lawrence, Montreal sixty leagues higher, and Trois Rivières between them. There are several large villages, fortified posts, and settlements along the river, and in different parts of the country. The present staples of Canada are, furs, fish, oil, and lumber; but as every thing is now in a thriving way, the number of inhabitants increasing, and their commerce much more considerable than it was, there is no doubt that Canada will become daily of greater consequence to Britain.

The immensity of this country is such, that though so long known to and in part possessed by Europeans, we have still but very imperfect notions of the interior parts. This will be easily comprehended, if we reflect that upwards of one hundred millions of inhabitants would not render it so populous as Great-Britain. Yet it must be allowed that it hath come  
into

into our hands with great advantage. We found in it many thousand people, natives well accustomed to and settled in the country, and now tolerably reconciled to our government, the benefits of which they feel and acknowledge. There is room enough for the different nations of Indians, who with proper care and management may be rendered of great utility. The lakes and water communications of all kinds ought to be diligently explored, as they seem intended by nature to facilitate an intercourse between the people situated in the different parts of this vast continent. The Indians report that the Lake of Assiniboils, in the most northern part of this country, is six hundred leagues in circumference, that the soil about it is fertile, and the air temperate. If they are to be credited it is the source of all the great rivers and lakes, viz. the River of Bourbon, or as we stile it Nelson's River, falling into Hudson's Bay, the River St. Lawrence, which falls into the ocean, the Mississippi, which discharges itself into the Bay of Mexico, the Missouri, a very great river which falls into the former, and another large river running directly west. At present the fishery is a very great object, as in the gulph of St. Lawrence and on the coast of Labrador they take vast numbers of whales, porpoises, seals, sturgeon, several sorts of cod, salmon, and other fish. Agriculture also makes a great progress, and the peltry and fur trades daily increase.

NOVA SCOTIA was by the French called *Acadia*. It is about five hundred miles from east to west, and three hundred and sixty from north to south. This province not only experiences the severity of the cold in winter, but is likewise much troubled with fogs in the beginning of summer; these fogs, however, though they are so extremely unpleasant, are not reckoned very unwholesome.

The soil, where it is cleared, if we may credit both English and French authorities, is fertile, yielding corn, grass, and most kinds of vegetables. The continental part is mountainous, and the far greater part still remains a wild and trackless forest. There are many lakes, several beautiful rivers abounding with a variety of fish, and scarcely any thing wanting to encourage the industry, and of course to increase the number of its inhabitants. The principal places are Halifax and Annapolis. The first is the seat of government, and the latter, which the French called Port-Royal, is seated on one of the finest havens in the world, capable of receiving almost any number of the largest ships, and where (which is very remarkable) the tide rises near or quite thirty feet.



The present exports are peltry, lumber, fish and oil; in process of time, masts, pitch, tar, hemp, and all other naval stores in abundance, will in all probability be exported from this province.

The French and English writers have given fine descriptions of this country; the former set a great value on the furs and peltry with which the Indians furnished them, and esteemed the masts and ship timber to be the best in the world; they likewise spoke in very high terms of the rich meadows and pastures, and of their fine arable land, which may be true enough on both sides of the Bay of Fundy.

The Isles of CAPE BRETON and ST. JOHN, though the latter is now a separate government, seem dependant on this province. The former has only a few plantations made, (it is said, by connivance) by fishermen merely for the convenience of its situation for the cod fishery. The latter was granted to several noblemen with a view to colonize the whole agreeable to a scheme originally formed by the late Earl of Egmont.

Though the plan was well laid for such a climate, and the execution of it began with spirit and at a great expence, and several hundred settlers fixed there, yet they are at present supplied with food from New-York. Instead of prosecuting the beneficial system of pasturage and raising hemp, they have, like all the other northern colonists, taken to the fishery as the only means of paying for the necessaries of life, in direct contradiction to the design of their patrons. But this is, and ever will be, the consequence of colonizing in such northern latitudes, where agriculture must ever be carried on with feebleness; where the climate is to the last degree rigorous; and where every spot seems frigid, dreary, and inhospitable.

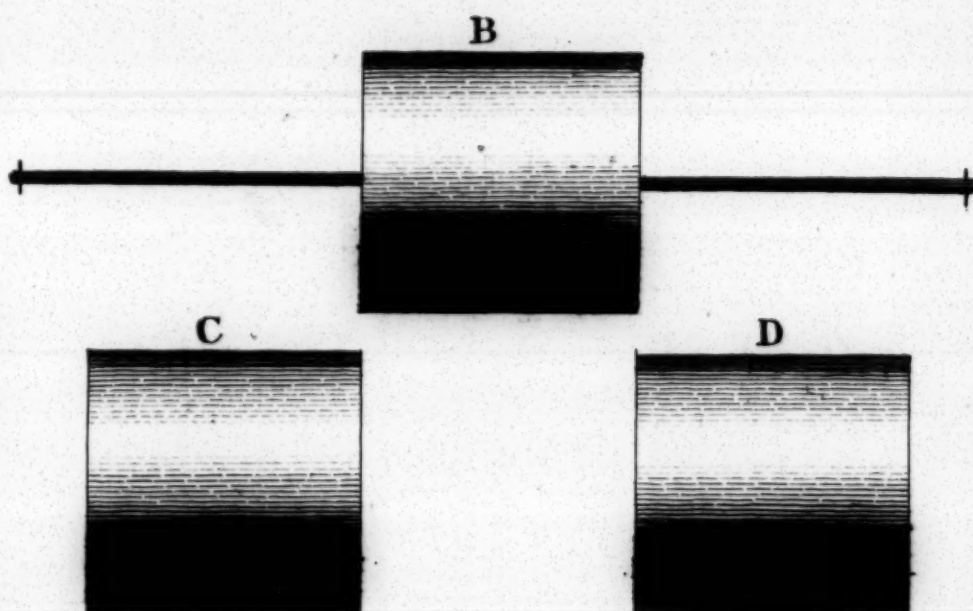
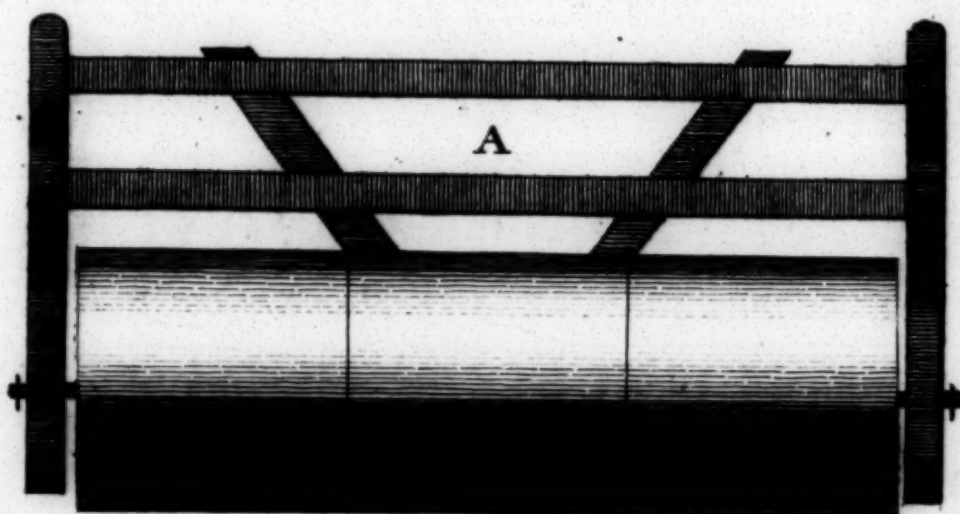
[To be continued.]

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ART. II. *A Description of a newly-invented Roller for Land, divided into three equal Parts, to facilitate its turning at the Ends of the Lands; with a Plate.*

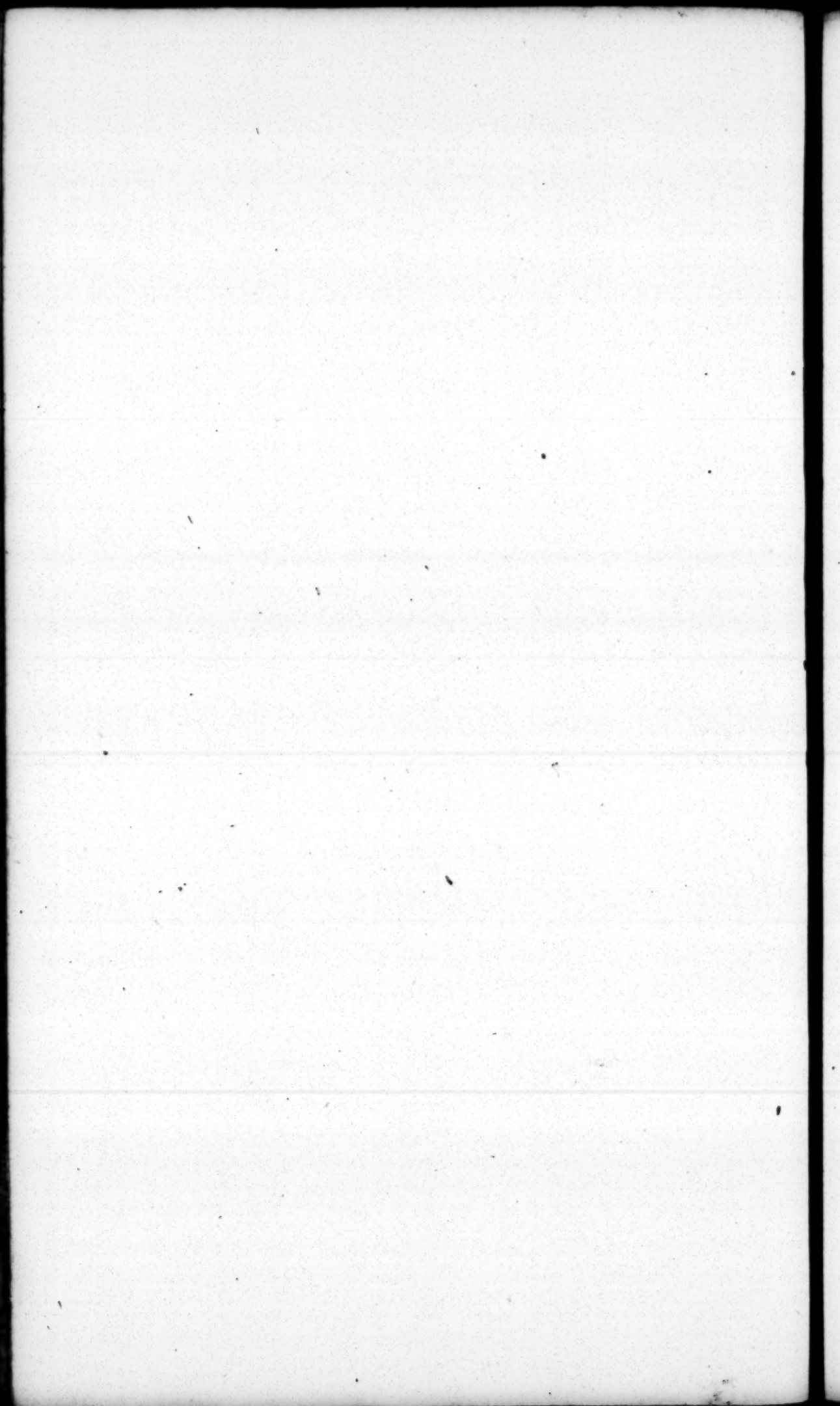
THIS Roller is in the possession of William Hole, Esq. of King's-Walton-Bury, in Hertfordshire, which he uses in his park. The benefit of its being divided thus, is its facility in turning at the land's end, as only one third part is dragged round, the right or left hand, part turning backwards and forwards

*A new Invented Roller.*



*Engraved for the Farmers Magazine.*





forwards, which greatly assists in turning it about; whereas the whole roller, when undivided, is a great labour for the horse in turning it about, and causes him to tear up the ground with his feet and the roller.

I am, Sir, your humble servant,  
*Preston, near Hitchin, Herts,* ROLT HINDE.  
*Feb. 22, 1777.*

P. S. I sent a model of this roller to the Society of Arts and Sciences, at the Adelphi Buildings in the Strand, in December, 1775, and received a letter of thanks from them on that account.

*Description of the Roller.*

A.—The Roller divided into three parts, with its frame, complete; about eight feet long, and two feet in diameter.

B.—The middle [third] part of the Roller, which is supposed to be taken to pieces to shew the spindles that are made fast to it.

C. D.—The two outside pieces which go on the ends of the spindles, and have two boxes in each of them, to assist in turning them round at the land's end; so that in fact they are loose and turn round upon the spindles, from which it is evident they will pass over any little eminence, and not tear up the land like those Rollers which are made of one piece whether wood or stone.

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ART. III. *Diseases of Cows with their Remedies, continued.*  
*By C. Williamson.*

IN my last I briefly mentioned the virtues of *Vegeto Mineral Water*, and promised to give a recipe to make it. This medicine is possessed of many and great virtues, in external applications for both cows and horses; and I have used it for many years before it became in general known in England. Goulard the inventor is Surgeon-Major to the Royal Hospital at Montpellier, and published a treatise on the virtues of Lead; from this treatise, originally written in French, I obtained the prescription, and valuable it is; within these few years, we have had an English translation universally read and esteemed; but altho' the prescription for the extract is simple and plain, it is with the utmost difficulty it can be procured good.—Dr. Arnaud pretended an exclusive knowledge of the secret mode; the dearness of his extract prevents its being universal, and I am determined to make a large



quantity, which I will put into the hands of Mr. CRUTTWELL, at Bath, to dispose of to the public at an easy price.

*Recipe to make Vegeto-Mineral Water.*

Take Extract of Saturn one hundred drops.  
French Brandy, four tea-spoonfuls.  
Water, one quart.

[Our readers will consider us as engaged to publish a simple, easy method of making extract of Saturn with common vinegar.—The late Dr. Arnaud indeed pretended that one sort of vinegar only will complete the dissolution of the lead; but this is a mistake, for long gentle coction will effectually saturate common wine vinegars with the saturnine particles. We would not however be understood to suppose that there is no material difference in vinegars; we know and have experienced the difference to be great. The common vinegars of the shops are often diluted with water, and their acidity increased by adding a few drops of oil of vitriol. Some of the distilled vinegars contain a minute portion of copper extracted from the lead of the still: this is readily perceived by that fine green with a bluish cast which it imparts to pickles. The other sort of vinegar which is made with malt liquors, and thence called *alegar*, however acid and fine, contains a large portion of a viscous mucilaginous substance, as is evident from the ropyness and slimyness which this kind of vinegar is very much subject to.

Goulard, the inventor, directs us to put a quart of wine vinegar [thirty-two ounces] (if made of French wine the better) and a pound of litharge of gold into an earthen pipkin, and to let them boil or rather simmer for an hour, or an hour and a quarter, taking care to stir it with a wooden spatula: then to take the vessel off the fire, and when it is settled, to pour the clear liquor into bottles for use.

This rarely succeeds; the vinegar will not commonly take up a sufficient quantity of the lead in such a short space of time. Nothing more however is requisite than to continue the boiling till the extract is as strong as you want it to be. The vinegar will evaporate very fast; it must therefore be replenished during the coction. By this means the extract of Saturn will in every respect be equal to that sold under the name of *Goulard*, at half a guinea a bottle.

It is not uncommon for the venders of this medicine to colour it, when it is not so rich as it ought to be; we have been informed that it is done with Spanish liquorice.

Having thus instructed the farmer how to prepare the extract, which is the basis of all Goulard's celebrated medicines, we shall now add some more necessary remarks on preparing the Vegeto-Mineral water.

Every species of water, says Dr. Arnaud, is not proper for this use. Rain water when purged and filtered, [see the *Farmer's Mag.*

No. I.] and that of rivers whose bottoms consist of either sand or gravel free from mud, are to have the preference, especially after having been purified either by standing some time, or filtered through proper paper. Spring and pump water being impregnated with gypfous or selenitous particles are both improper; the extract whitens it only for a time, and then falls to the bottom without being able to mix perfectly with it afresh; this water becomes curdled, and like four milk; and in this state it is by no means to be made use of, as not at all likely to answer our expectations. To this we may ascribe the want of success which seems to prejudice many against the remedy, and to please others who are by no means its friends for want of being better acquainted with it. When, therefore, proper water cannot be procured, care must be taken to distil others if opportunity serves.

Nothing can be more just than the preceding observations; they are however defective. None of the waters which he mentions, when recently prepared, will make this justly esteemed composition in the requisite perfection. Not one of them will mix with the extract without curdling more or less, which is apparent from that milky whiteness which the water assumes. But when either pure rain water, or that which is perfectly well distilled, has been long and carefully kept, it will scarcely be discoloured, much less assume any whiteness when the pure extract is dropped into it; and this only is the true test of genuine VEGETO MINERAL WATER, with which such surprising cures have been performed. This observation was never before made publick; but we speak from experience.

It may not be improper to observe, that Dr. Arnaud always made choice of camphorated brandy, and warm water.]

*This subject to be continued.*

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ART. IV. *On Raising White-Thorn Hedges.*—Continued.

WE intended to have given Mr. Miller's sentiments this month, but for reasons which are of no consequence to the reader, we are obliged to postpone that article; instead thereof we shall cite another writer on this subject whom we have already mentioned, and whose opinion with respect to planting the thorns in the face of the ditch we are engaged to controvert. [See *Farmer's Mag.* No. V.]

The author of the *Essays on Agriculture* makes some judicious observations however on raising quickset fences, which we shall make free to select, and add such remarks as may occur while we transcribe.

Some, says he, prefer a double, and others even a triple row placed at different heights in the face of the bank; putting the plants in each of these rows opposite to the interstices of the other



other rows: but, as both the double and triple rows are attended with the inconvenience of not readily admitting either the hand or tools to clean them after the first year, the single row ought always to be preferred, except upon such soils as are quite free of weeds; for, if these spring up, and are allowed to grow without molestation, the hedge will be quickly choaked up with them and stunted in its growth. Indeed, I am of opinion, that the single row is almost, in all cases, the most eligible; as it is not only easier cleaned, but likewise, for the most part, advances with greater vigour, and becomes at last a stronger and a better fence than where more rows are planted; although these last have usually a more promising appearance for the first year or two.

[We entirely agree with this author in preferring the *single* row, as it is in general the most eligible, much the cheapest, and will make a fence sufficiently strong.]

Almost all writers, on agriculture, advise the farmer to be at great care to make choice of such plants only as have been raised in a nursery of a poor soil; and always to reject such as have been reared in a richer soil than that in which he is to plant them: because, say they, a plant which has been reared in a barren soil, has been inured from its infancy to live hardily, and will advance with a great degree of luxuriance, if it is planted in one that is better; whereas a plant, that has been nursed in a fertile soil, and has suddenly rushed up to a great size, like an animal that has been pampered with high feeding and swelled up with fat, will languish and pine away if transplanted to a more indifferent soil. It would be no difficult matter for me to show the fallacy of this mode of reasoning, and to point out many errors which have crept into almost all sciences, from pursuing such fanciful analogies between objects in their own nature so different as in this example. But, as this would be, in some measure, foreign to my aim in this essay, I shall content myself with observing, that in few cases could it be attended with worse consequences than the present, as it leads to a conclusion directly the reverse of what is warranted by experience. For, I have found, from reiterated experiment, that a strong and vigorous plant, that has grown up quickly, and arrived at a considerable magnitude in a very short time, never fails to grow better after transplanting, than another of the same size that is older and more stunted in its growth, whether the soil in which they are planted be rich or poor; so that, instead of recommending a poor hungry soil for a nursery, I would universally wish to set apart for this purpose,

pose, the richest and most fertile spot that could be found; and, in the choice of plants, would always prefer the youngest and most healthy to such as were older, if of an equal size. I speak here from experience, and, therefore, do it without the smallest doubt or hesitation; being certain that future observations will confirm the justness of these remarks.

[We have expressed our sentiments pretty fully on this head in our first number, in reviewing Mr. Boucher's Treatise on Forest Trees; at the same time we threw out some hints which might very probably account for the contrary opinion.]

If you wish to have a good sence, free of gaps, and of an equal degree of strength throughout, pick your plants with great care, so as to have them all as nearly as possible of one size, and of an equal degree of healthiness. But, if you should have occasion for so many plants at one time, as makes it necessary for you to take them as you can find them, you had much better assort them into several lots of different sizes, and plant each of these lots in a place by itself, than plant the whole promiscuously; it being much better to have two inclosures fenced with hedges of different degrees of strength throughout their whole extent, but equal in every part, than one which is in some places stronger than in others; because, so long as any one part of it is weak, all the stronger places can be of no use as a sence: and if, with a view to remedy that evil, you plant your weak plants by the side of the strongest, they are apt to be overtopped by these, and stunted in their growth; so that the hedge, in these places, continuing always weak, is liable to be broke down by cattle, hogs, &c.; which occasions those unsightly and irremediable gaps that farmers so generally have reason to complain of. But if all the plants are at first quite equal, their first shoots will be nearly equal in vigour, and will continue to advance at the same rate, so as to form a hedge equally strong in every part.

If the young thorns are all of an equally healthy temperament, the vigour with which they advance will be nearly in proportion to the size of the plant; so that it is of great consequence that these be not too small. The least size that I think should ever be planted out, if the plants can be got, should be such as about the bigness of a man's little finger; but they will be better if about the size of the thumb. If plants are reared in a very rich nursery till they are of this bigness, and have had the earth carefully dug about them each year, so as to make them have their roots very much multiplied close by the stem, and be planted in a good soil in the manner after mentioned,



mentioned, few persons have any comprehension of the degree of vigour with which they will advance. In such a case, the farmer may reasonably expect that the shoots of the first year will be, at a medium, between three and four feet in length, and some of them considerably beyond that. It would be difficult to rear plants to a larger size than this in a nursery; and although they may be sometimes got of a larger size, by grubbing up a hedge which it is necessary to remove, yet as, in this case, the roots have been allowed to extend to a greater distance when growing, there is a necessity of cutting off many of these at raising them, so as to leave but few fibres adhering to the plant; on which account, it is not to be expected, that they will advance so fast as plants of a smaller size, which have had their roots properly formed by a judicious management in the nursery; yet plants of this kind ought not to be rejected, as I have sometimes seen them send out shoots of very great strength and vigour.

[The preceding paragraphs speak for themselves; but it would not be possible to procure the requisite number of large sized plants, where there are large common fields to be inclosed; and in fact those of the size of one's little finger will answer extremely well.]

As the strength and future healthiness of a hedge in a great measure depend upon the vigour of the shoots it makes the first year, too much care cannot be taken to guard against every circumstance that may tend to retard its progress at that period. On this account, it is of very great consequence, to have every hedge planted as early in winter as possible. For, I have found, by long experience, that if one part of a hedge be planted early in winter, and another part of it in the months of March or April, when the buds begin to swell, all other circumstances being equal, the shoots of the first year, from that part which has been first planted, have always been nearly double the size of those of *the other part*, and continue ever afterwards to be more healthy and vigorous in every respect; which is a circumstance that few, who have not experienced, would naturally have expected. If the spring be not very backward, thorns should seldom be planted after the beginning of February; and, in the most backward seasons that ever we experience, none should ever be planted after the beginning of March, if it can possibly be avoided. It is a good method, in general, for those who have a great deal of work of this kind to perform, to begin early in autumn to plant; taking only so much earth from the ditch at that time, as is just necessary to cover the roots of the plants; and running along the whole

whole in this manner as quickly as possible, so as to have the quicks all planted early in winter ; after which the ditches may be finished, without any loss, in the spring.

[Though it may be best in general to plant in Autumn, yet we have seen exceeding good hedges raised from plants that were set in February, and the beginning of March. Our experience, which is not inconsiderable, does not however warrant our assent to the author's somewhat extraordinary assertion, that the shoots of the first year, from that part which is planted in autumn, will be nearly double the size of those of the other which is planted in the spring.]

As the vigour of the first shoots of a hedge, likewise, in a great measure, depends upon the proper trimming of the young thorns before planting, I shall beg to make a few observations on that head.

Every tree when it is transplanted loses a part of its roots, and is on this account unable to absorb so much nourishment as would be necessary to make it push out shoots with an equal degree of vigour as if it had not been removed ; it, therefore, becomes necessary to lop off some part of the top of every tree when transplanted, that the remaining roots may be able to absorb abundant nourishment for these branches that we leave behind. If the plant is old, the proportion of roots that it loses by being transplanted is always greater than if it is young ; but, in all cases, it is necessary to lop off some part of the top of the plant, or there is great danger that it will then receive a check in its growth and become stunted ; which is a disease that hardly admits of a cure but by amputation. To prevent this dangerous disease in a hedge, it is always proper to cut off the top of the quick entirely ; which never fails to make it send out shoots the first year of a more than ordinary degree of vigour. This amputation ought always to be performed by a sharp tool, that the wound may be as clean as possible ; and when the hedge is to be planted on the face of a bank, it ought to be made about twelve inches above the root. Although this operation is not so indispensably necessary on young plants as on those that are older ; yet, it is always of use, and ought never to be omitted.

Gardeners too often neglect this most necessary operation, and almost as universally prune the roots too much. If the plants have not been brought from a distance, or long kept out of the ground, it is only necessary to cut off the points of such roots as have been lacerated in taking up the plants ; leaving as many small roots as possible, if they are sound. If, indeed,



they have been too long exposed to the weather, so as to have some part of the smallest fibres killed, it will not be improper to cut away these dead fibres; but, it is in general the safest plan, to prune the roots but very little before planting.

If the soil in which they are planted is poor, I would advise to mix some well made dung with the earth that covers the roots of the thorns, which would greatly promote their growth, and be attended with very little expence, as the quantity necessary would be very small.

I have met with many gentlemen who are firmly persuaded, that dung of every kind is hurtful to hedges, and many other plants. It is much to be regretted, that mankind should adopt any kind of theory with so little reserve, as to shut their eyes against the plainest dictates of experience. I will not here attempt to undeceive those who may have adopted this opinion by any kind of reasoning, which, in matters of this sort, is always in danger of being fallacious; but leave the decision of the matter to their own experience and observation; not doubting but that they will find, that if there are any plants which are not forwarded in their growth, by the judicious application of dung to the soil in which they are reared, the number is extremely small, and that the hawthorn is not one of these.

[It is the injudicious application of dung to hedges or trees, that is condemned, it should not be applied in its raw state, but should be previously mixed with soil till it is well rotted, and the whole incorporated, and it will not then injure the quickset, nor do we believe any person is of a contrary opinion; our Essayist therefore might have shewn a little less warmth on this article. See the *Farmer's Magazine*, No. II.]

*This subject will be continued.*

#### ART. V. *Sowing Grass Seeds with Corn, more beneficial to the Farmer than sowing them alone.*

Extracted from ESSAYS ON AGRICULTURE.

I Would not have taken any notice of this article here, had it not been to combat an error in practice strongly inculcated by several sensible writers, who seem to be better acquainted with the theory than with the practice of Agriculture; who have repeatedly advised the Farmer with the most zealous solicitude, "Never to sow grass-seeds with any kind of grain; but in all cases to sow it by itself; which," it is said, "will always do more than repay the loss that is sustained by the want of a crop of grain; the hay being so much bettered by this practice."

Imposed

Imposed upon by their specious reasoning, and the seeming confidence with which it was delivered, I have been induced to try the experiment more than once; and now, if I may be allowed to draw any general conclusion from these experiments, and a long continued and extensive course of practice in this respect, it would be, that even *if we were to have no regard to any other circumstance except the grass-crop alone, it will always be best to sow it with some kind of grain; but, when we consider likewise the loss that the Farmer thus sustains for want of a crop of grain, the practice recommended must be looked upon as highly pernicious to the Farmer.*

When grass-seeds alone are sowed (I here speak of clover, rye-grass, and other grass-seeds, usually sowed for hay) upon a soil in tolerable good order; as they make but small progress at first; a great number of small annual weeds are allowed to rush up; which, quickly acquiring strength, fill up the whole ground so much as to be in great danger of choaking the grass entirely: or if the soil is not overstocked with weeds, the drought of the summer makes such an impression on the open porous ground, thus settled, thus destitute of plants to attract moisture to it, that the tender plants of grass are in great danger of being scorched and burnt up; whereas, when the grass-seeds are sowed with any kind of grain, it quickly rushes up in abundance, and prevents the growth of annual weeds, while its broad leaves shade the tender plants of grass from the direct rays of the sun, and preserve the earth in a proper degree of moisture, so as to nurse up the tender grass in the most kindly manner that could be desired. And, as the leaves of the corn decay towards the end of summer, the grass gets then as much air as is necessary, (unless in the case after-mentioned), and continues to vegetate with a sufficient degree of vigour, till the grain is cut down; so as to be usually in a healthier and more flourishing state at that time than if it had been sowed alone; and will, in general, be afterwards much freer from natural grasses and other perennial weeds.

When ground is in a proper condition for carrying a crop of grain, I am well satisfied; both from the above reasoning, and also from repeated experiments, that the crop of grass is at least *equally* good when it has been sowed with grain and the crop allowed to ripen, as when it has been sowed without any crop at all; so that Farmers do well to continue their common practice in this respect, however much it may be opposed or decried by theoretical writers. As to autumnal sowing of grass-seeds, I have found, that it is much more precarious than the vernal, and therefore would never recommend



it but in cases of great necessity; when a lesser evil ought to be preferred to a greater.

The circumstances necessary to be attended to for making the seeds vegetate kindly when sowed, are in general so obvious, as to be easily distinguished by any one who attentively considers the subject. The seeds are for the most part small, and therefore require the mould to be pretty fine, that they may not be covered too deep by falling below, or scorched up by lying above great clods. Like every other seed, they require a due degree of moisture to cause them to vegetate, and therefore ought never to be left exposed to the rays of the sun without being covered; as, unless a train of rainy weather comes immediately after sowing, many of the seeds will be destroyed: on which account it is always necessary to harrow the ground immediately after sowing, with a light close-toothed harrow which should be kept for that purpose; and sometimes a gentle rolling is of use after that, especially upon light spongy ground: but no one circumstance is effectually insures the vegetating of these small seeds, as sowing them as soon as possible after the ground is ploughed; as the moderate moisture that new turned up ground always has when it is in good order, seems to be more peculiarly fitted for promoting the vegetation of every kind of seed, than that which may arise from any other cause whatever; on which account every industrious Farmer will take care to prevent as much as possible the withering of the ground after ploughing, so as not to lose the benefit of this circumstance.

Before I quit this subject, it may not perhaps be improper to observe, that the Farmer is more abundantly repaid for an extraordinary dressing as a preparation for a crop of grass, than for almost any other crop that he can sow; and that, of consequence, it is always good economy to lay down rich, and not poor ground to grass. It is likewise of the utmost consequence to have the ground as free as possible from perennial weeds; so that it ought not only to be rich, but clean also, if you wish to have a very fine crop of grass. This I rather take notice of here, because I know that it is a practice pretty general in many parts of the kingdom, to lay only such fields into grass as are in such bad order as to carry very poor crops of grain, without any sort of preparation whatever; the bad economy of which practice they would soon be convinced of, if they would only be persuaded for once to try one directly opposite to it.

**ART. VI.** *On Transplanting Apple-Trees, in the Summer.***MR. STEVAN,**

**E**IGHT or nine years ago, at the expiration of the lease of a person who had planted some apple trees along the sides of his hedges, a gentleman took the farm on a lease, and having occasion to enlarge his garden, took in part of the adjoining field, on which stood eight or ten apple-trees that had been grafted on crabstocks; they were very fine, about fifteen years growth. I think however, the diameter of the trees about a foot above ground was between five and six inches: these trees were taken up about the latter end of May or beginning of June. They were much injured in their roots and branches by the workmen; who very carelessly took them up, and threw them in a very rough manner amongst other trees, thorns, &c. intended for firewood, as the gentleman would not believe they could possibly grow if planted.

Having an inclination to try the experiment, I begged for two of them, which was readily granted; these I planted in the following manner. First I cut away the injured roots with a sharp knife; some that were large I cut with a saw, smoothing the place afterwards with the knife. I pruned none of the unhurt roots, (which were indeed but few) and but very little of the branches except those that were damaged, which were too many. I then dug holes large enough to receive the trees, and procured some fine earth from a very rich pasture field adjoining on a warm limestone and the soil inclining to a hazel. As I filled up the holes about the trees, I watered the earth moderately with water from a slow running river (which I think the best). I threw some straw about the roots that the earth might not dry very soon, then as it was necessary to water them, I took a large mash-tub and half filled it with fine mould from my meadow, and filled it up with water from the aforesaid river; this I stirred well two or three times a day, that the water might be the sooner and better impregnated with the salts of the earth, which I take to be the proper food of vegetables. With this water I watered my trees every night for about six weeks of very dry weather, after which came a rain which lasted a fortnight or more, that made watering any longer, as I thought, quite needless, as my trees grew very flourishingly. When the rain was over, I only continued the straw (which was changed often for fear of its harbouring worms and insects) about the roots three yards round, all the winter, as well to defend the greatly wounded

roots



roots from the frost then, as in summer from the heat. And about Michaelmas I propt them with stakes to secure them against the wind: My two trees, (one a red-streak, and the other a golden russet,) have ever since thrived exceedingly, and bear plenty of excellent fruit.

I must observe, that I changed my earth in the tub three times every week, as in about two days I thought it had yielded all the salt and juices that feed vegetation. This water I think the best of any for watering trees or plants, its salts are ready prepared and concocted for the nourishment of the tree or plant; water from dung contains salts too crude and undigested, especially for fruit trees, and has many pernicious qualities; so has pit-water that has stood till it is corrupted. I think the best water is that of a very slow river that runs through rich meadows; such rivers are always warm in summer, and are impregnated with the richness of the lands they flow through; this water, after standing two or three days on fine virgin earth, must contain much of what nourishes plants.

I think the tub had better be exposed to the sun, as I fancy it is thus greatly meliorated and softened; but perhaps some of your ingenious correspondents could suggest many improvements that might be made in this method of summer planting, if you think it worthy of being laid before them. As I am but an uneducated Farmer, whose experience never reached beyond my own native neighbourhood, I beg you would be pleased to excuse my many inaccuracies of stile, and correct what wants correcting. I have no ambition to be an author; all I had in view was only to communicate this experiment, and few observations, to the public, in a manner as well as I was able. Make what amendments you please; this will be esteemed the greatest favour, as will likewise your, or your correspondents' remarks on my subject.

I am, Sir, your most humble servant,

Glamorganshire,  
Jan. 28, 1777.

and constant reader,

R. T.

P. S. Please to permit me to subjoin the following questions, which I beg answers to from your correspondents:

- I. What kinds of apples and pears are best for cyder and perry?
- II. What are the nature and qualities of the soil in Herefordshire, Gloucestershire, Devonshire, &c. that produce the best cyder?

III.

III. In what kind of soil will all kinds of fruit trees prosper best?

IV. Are there any kinds of peaches and nectarines that will do for standards?

[Moistening plants with water that has been previously impregnated with rich earth, is, we believe, quite new, though we are not absolutely certain of it. The principle at first sight may, to many people, seem consonant to reason, and to coincide with the all-wise operations of nature. We cannot, however, help thinking it superfluous in the present instance. For when trees are transplanted into fresh land, there is necessarily a large quantity of loose earth placed round the roots; and common water passing frequently through this earth, will dissolve the salts which it contains; and we would observe, that a much more minute proportion of the salts or juices supposed to be contained in the earth will suffice, than our correspondent may perhaps imagine. He possibly may not have considered, that all spring, river, pond, and other water (mineral excepted) really contains those very earths, salts, and juices, which are necessary for the formation, and therefore are justly stiled the *pabulum* of plants.]

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ART. VII. *Dissertation on Manures.* Continued.

*On Watering Land.*

SHOULD the weather prove mild, and a very large swarth of hay be required, the watering may be afterwards continued till near hay harvest, observing to let it run over the land only a few days, or a week at a time, with intervals of a week or a fortnight. But this must not be servilely adhered to; the natural warmth and dryness, or coldness of the land, together with a forward or backward spring, should all be considered and observed, and the watering regulated accordingly. A little experience will be the best guide, and a Farmer will learn more from one experiment, than he can by reading a whole volume of instructions.

If hay of a finer quality is desired, less water should be thrown over the land: it should likewise be continued upon at a shorter time, and the intervals should be longer; in other words, the land should be only moistened and refreshed occasionally.

Between these two methods, or extremes, are all the various gradations from a moderate, but sufficient quantity of fine hay to a strong heavy crop of coarse hay, that is fit for draft horses of seventeen hands high.

There



There is another very beneficial circumstance which is consequent on this early watering: the grass will be very forward in the spring for the ewes and lambs, and may be fed down close till May, when it may be again watered, and if it be reserved for mowing, the Farmer will find that he can cut a ton of good hay. Some writers pretend that two or three tons may be cut after it has been fed off with sheep; but I believe that no person conversant with water meadows ever said this. The grass will, with proper management, be several inches high by the beginning of February; every intelligent Farmer will therefore naturally infer, that land which is thus forced (as I may say) to produce one good crop, will not immediately bear another equally good.

People talk of mowing grass land twice, where they have the command of water. I must own, that I never found this to be a profitable method; how it may answer where pasture land is extremely scarce, and the artificial grasses but little cultivated, is beside my present purpose. But where an early crop of good grass can be obtained for the couples, by the method which I have laid down, and which I know is in some places usually practised, most Farmers will assent to its being much more beneficial than mowing the land twice.

I know not whether it may be necessary to observe, that the meadows should be quite dry and firm before the sheep are turned into them.

After the hay is carried off, the water is to be again brought over the land; but the after-math must not be fed off with sheep, for as far as my experience extends, I have always found it to produce the rot in an high degree.

In the *Tour to the North*, I think, (for the book is not just now at hand) mention is made of a Gentleman Farmer, who, by throwing water over his land at any time in summer, so as to make the water run, could give the rot to sheep, which he frequently did to his own, (for reasons with which I have no concern) just before he sold them to the butcher. Hence he attributes the rot to heavy rains which fall in the summer, provided the water runs over the grass on which the sheep feed; but if the water does not run, it will not have any such baneful effect.

That this may be true of land which has not been watered in the winter, nor yet in the spring, I shall not deny; but if it has been regularly watered before the warm weather commences, the land will continue perfectly sound, though it be watered in the summer, unless it be mowed; after which, as I have already observed, it will be dangerous to turn sheep upon it.

It has been remarked by many Farmers, that a land flood in summer makes their meadows unsound, and that they are again cured by a winter's flood; this has inclined many people to suppose, that the mud and grit which the sheep are obliged to swallow, occasion the rot: but perhaps the rot may be accounted for on a different principle, which will at the same time reconcile the seemingly opposite opinions.

With proper deference to superior judgment, I am of opinion, that the rot is principally to be attributed to sheep eating the young tender squally kind of grass which springs very quick and sudden after rains or floods in warm weather. The rains and land floods in winter do not produce this grass, at least in any considerable degree or quantity. In land that has been watered for some time, the grass grows *slowly* though continually; but if water be suddenly thrown over land in hot weather, the grass is very apt to shoot up quick, and is often dangerous; sometimes fatal, if the quantity of it be considerable; for, thank God, it is not every shower or flood that brings it in such abundance.

COLUMELLA.

[Some further remarks on this subject will be given in a future Number.]

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ART. VIII. *An Abridgement of the Articles published in the MUSEUM RUSTICUM, with Remarks.*

IN consequence of the hints received from our correspondents, we propose to give a concise, but faithful abridgement of the articles that were published in the *Museum Rusticum*. With respect to abridging the *good* pieces only, it might very possibly subject us to an altercation with the authors or editors, and even the admirers of those pieces which we should think beneath our notice; we must, therefore, at least mention them all. Our remarks will be free, but impartial; we shall not hesitate to condemn the bewildered theorist, nor withhold the just tribute of applause which the recorder of facts and experiments has an undoubted right to expect.

N U M B E R I.

ART. 1. *A Letter describing the Kentish method of gathering and curing Hops.*

[On comparing this letter with the account in Miller's Gardener's Dictionary, we see nothing that is new. The editors have added a note relative to a new-invented method of drying hops with sea-coal, or indeed with any kind of fuel, by means of a moveable iron



furnace, but its particular merits are not discussed. The whole subject is purely of a local nature, and in short, can be of little or no use but to hop-planters, who certainly would not eagerly consult a *Museum Rusticum*, or a *Farmer's Magazine*, for instructions how or when they are to *pick* or dry or bag their hops; besides, they require too much nicety in the several operations. We intend however, in a future number, to give the natural history and cultivation of hops, with a neat engraving, for the satisfaction of our curious readers.]

ART. 2. *A Letter from Mr. Irwin, on the culture of Flax in the Mahera, a district of the county of Roscommon in Ireland.*

Mr. Irwin observes, that the soil is mostly of a deep clayey nature, moist in winter, and stiff in summer, and lastingly fertile, which being necessary for him to premise, in order the better to *explore* its produce, he proceeds to the cultivation of flax, which is, as yet, the principal article that brings into Ireland most of the wealth it possesses.

We shall pass over the peculiar treatment of the land by previously *sanding* it, and then getting a crop of potatoes, which are dug up by the beginning of November, to make room for a crop of flax the spring following. The land is ploughed before Christmas; cross-ploughed the beginning of February; and towards the end of March ploughed again in the track of the first ploughing; it is then harrowed down as fine and as flat as possible; the seed sown, and lightly covered with another gentle harrowing, always observing, that land cannot be ploughed too often, or made too fine for this purpose. In June it is weeded; some weed it when only four or five inches high; but treading it so young hurts it; and this weeding is of no use, for it must be weeded again before pulling.

[This last remark is unworthy of its public-spirited author; it very naturally reminds us of the wite answer which a gentleman's servant gave his master, "It was unnecessary to clean his boots, because they would be dirty again so soon." We well know that it is essential to a good crop of flax to keep it clean and free from weeds, and that it is often necessary to repeat the weeding; but we never saw any materially ill effects from the tread of the weeders.]

The Baltic, or Riga seed is preferred; the Dutch agrees worst of all with this climate, and two successive crops are commonly taken in their deep rich lands; if, however, the land be too rich, the flax is apt to lodge, which injures both the seed and the lint. The seed should be sown in dry weather, and they generally chuse (as in some other places) to sow it on

Good

*Good Friday*; when the flax is sufficiently ripe, it is pulled and left in the field in stiches or stooks till it is sufficiently dry; it is then carried home and stacked till March, when it is rippled, and watered, and dressed; though the poorer sort of people do all this as soon as possible after it is pulled; but the flax dresses and manufactures much better, and when in linen wears better, if the watering be delayed till spring, though the quantity will be somewhat diminished.

Clear stagnated pools or ponds, are the best for watering flax; in which it must be kept down with weights for about three weeks; all springs and running waters must be avoided. It is then dried, braked, and hackled.

As the land must be brought in fine order for flax, some grass-seeds may be sown in some little time after the flax is in the ground; and by this means a full coat of grass may be had.

When the flax is a clear yellow, or brown, or lemon colour, and begins to drop its leaves, it should be pulled, but never when it is green, which, though often done, injures the quantity and quality both of the flax and the seed. If the season be moist, it should remain unheaped, or unstacked, in the barn for some time, to prevent its heating, which is very prejudicial.

No land can be too good (though it may be made too rich with manure) if the seed be duly proportioned to it. In a fortnight, Mr. L. informs us, that their flax is subject to be blasted by intense north or north-east winds.

[We have seen a different method of watering flax practised in some of the inland counties in this kingdom; it is spread thinly upon dry pasture lands that have been fed very close, and after a proper time it is turned, and afterwards gathered up again: this is all the watering it receives; the season is in February and March. The Dutch water their flax in the same manner, but turn it oftener. This is of great service to the grass, and brings it much earlier than in those fields where no flax is spread.]

With respect to flax impoverishing land, it should be considered, that as numerous ploughings, fine tilth, and clean weeding, are essential to a good crop, they will abundantly compensate for the supposed exhaustion. We cannot however approve of two successive crops of flax; but as the soil in the Mahera is deep and strong, and is likewise manured by sanding, it may probably be more than commonly fertile.]

*ART. 3. A Letter on Trees and Shrubs that will thrive near the Sea.*

The Mulberry-tree, the Rose-tree, Rosemary, Fennel, several species of the Limonium or Sea Lavender, and the



broad-leaved plain Eryngo, which is a pretty flowering shrub, are here recommended.

The Scots Firs, which were supposed to be hardy, seldom succeeded; this failure, however, is attributed, not to the salt rhime from the sea, but to animalculæ, which nestle in and infest the buds.

That this was the true cause of the trees dying, was indisputably ascertained, by destroying the animalculæ on a tree that was half dead, which in a short time recovered its full vigour. Fumigating these trees with brimstone, is recommended.

[None of the trees or shrubs here recommended, though they are all very useful ones, are, in our opinion at least, equal to the Birch-tree, for shade and shelter, where the fields are exposed to sea breezes; this is particularly noticed in the *Farmer's Magazine*, No. IV. The great Maple (or Sycamore) is likewise mentioned by Mr. Boutcher, as another tree that will thrive and flourish near the sea. For a new, cheap, and simple method of fumigating wall-fruit or other trees, see the *Farmer's Magazine*, No. II.]

ART. 4. *A Letter containing Observations on the new method of mowing Corn, invented by Mons. de l' Isle.*

[No verbal description can convey an adequate idea of Mr. de l' Isle's scythe and method of mowing wheat. We are not convinced of its superior utility; for though the straw will be longer, and the work sooner dispatched, yet the obvious inconveniencies attending it, will, in our opinion, prevent its ever being much used in England.]

ART. 5. *A Letter describing the Manner of raising Canary-Seed, near Margate, in Kent.*

The Farmers in the Isle of Thanet, on account of a constant intercourse with the metropolis, are esteemed to be some of the most civilized in the kingdom. This gentleman, from some occasional conversation with the Farmers, has collected a few observations on the culture of this plant, which Mr. Miller has some how or other omitted in his valuable Dictionary. We shall therefore be readily excused for giving the whole, especially as we have a drawing of the plant which we intend to get engraved, for some future number.

He observes, that they generally chuse to sow it in fresh land; that is, such as has only borne grass. After ploughing up the lay, and bringing the land into tolerable rough tilth, they sow it with peas; these are kept clean hoed as usual, and yield a good crop. The next year the land is well ploughed, and planted

planted with horse beans, which thrive well in that island. These two crops effectually kill the greenward, or grass; take off the rankness of the soil; and the frequent hoeings, which are necessary to keep the weeds under, bring the land into fine tilth. After the beans are off, a thorough ploughing is given to the land, and in that condition it remains till the spring; about the beginning of March, if the weather be fine, and the season dry, the land is ploughed for the last time; immediately after which the Canary-seed is sown.

The Farmers in that island used formerly to sow canary-seed with a broad-cast, spreading it all over the land; but when this was the practice, they found it very difficult to hoe and keep the plants clean from weeds: at present they sow it in furrows, made a-cross the land, constantly taking care to make the ridges between the furrows as sharp as possible: by this means the seed, which is sown by hand, slips from the sides and tops of the ridges into the furrows, and the plants come up in regular rows. The plants must be kept very clear of weeds by means of the hoe, weeding-hook, &c. and if it be a wet summer, the intervals must be hoed several times; but of this the intelligent Farmer is the best judge.

Three pecks of seed are, in general, enough to sow an acre, sometimes more, and often less. The canary-seed seldom comes on till the wheat harvest is entirely over, and the corn housed: but it must be observed, that the wheat harvest is generally very early in that island. It is reaped with a hook, and as fast as it is cut, the reapers lay it on the land in wads, as they call them, or parcels, about the quantity of half a sheaf of wheat unbound: in this manner, if the weather be favourable, it is left near a fortnight, at the end of which time, the wads must be turned, that the other side may be dried. If the weather be very wet, they must be turned oftener, to prevent the seed from sprouting.

The price of reaping canary in that island, is from six to eleven shillings per acre; and the price of threshing and dressing it is five or six shillings a quarter. According to the goodness of the land, and the tillage that has been bestowed upon it, the Farmers there expect their return to be from twenty-five to fifty bushels per acre; but the common crop is from thirty to thirty-four. It must, however, be observed, that the Farmers never pay so much as ten or eleven shillings per acre for reaping this crop, unless the canary be very much lodged and tangled, which it often is, owing to the land in which it grows being fresh, rich, and rank, and to the high winds to which that island is subject.

They



They sow successive crops on the same land for eight or ten years; and sowing canary would be a very great improvement to lands which lie convenient for water carriage to London markets, was it not a crop the Farmer ought by no means to depend upon, not only because the return, or quantity it yields, varies greatly, but also on account of the fluctuation in the price of this seed in the London markets, where the greatest, and indeed almost the whole demand is.

ART. 6. *A Letter from the Rev. Mr. Jackson, on curing rank, coarse Meadows, and cultivating Cabbages, as Food for Cattle, &c.*

Deep drains were first cut all over the land at proper distances, to carry off the superfluous water; the rushes and flags were then mowed as close as possible, and the whole meadow covered with coal-ashes; as this did not destroy the weeds, the meadow was ploughed the latter end of the next summer. The next spring it was dugged two spit deep, (which cost three-pence a rod) and then planted with the largest kind of cabbages, four feet distant from each other. The intervals were kept clean from weeds, and twice in the summer they were stirred with a spade: this had a surprising effect, and the cabbages grew of an enormous size, and prove sweeter than any raised in the kitchen-garden. As the crop was not a saleable one in his neighbourhood, Mr. J. gave them to his cows, which fed on them plentifully: this increased the quantity of their milk, but communicated both to it and the butter a disagreeable taste, which he cured by ventilating the milk. He next tried some hogs with the cabbages mixed with barley-meal; this answered his expectations, and though the cabbages were at first boiled, yet the hogs soon began to eat them raw. The poultry and the draught-horses, likewise, were fond of chopped cabbage. This experiment succeeding so well, Mr. J. dug up a piece of meadow and planted it with cabbages every year.

In the succeeding spring all the stalks were pulled up, and the field was then sowed with the sweepings of the hay-lost mixed with some white honey-suckle trefoil. The drains were next filled with faggots and large stones, and afterwards covered with earth, and sowed with grass seeds. It has been in grass five years without the least appearance of either rush or flag. By this new piece of husbandry Mr. J. thinks that coarse meadow land worth no more than five shillings

lings an acre would be worth at least forty ; perhaps twice forty if near a large town.

[Though this improvement is acknowledged to be a good one, yet from the face of it, the expence was very considerable. In our last number the reader will find a method to prevent butter being tainted when the cows feed upon cabbages, extracted from Dr. Hunter's edition of Evelyn's Sylva.

Mr. J.'s remarks on the superior sweetness of his cabbages when compared with those that were raised in his kitchen garden, exactly correspond with what we have published in the *Farmer's Magazine*, No. IV. which was communicated to us by a Gentleman of Fortune.]

ART. 7. *A Letter on the Use of Sea-Waure.*

Sea-Waure, Sea-Wrack, or Sea-Weed, has ever been considered as a valuable manure, and if gathered from the rocks at low water, it is reckoned superior in virtue and duration to that which is left, by the inflowing of the sea. Though many use it alone, yet this gentleman assures us, it is much the best method to form a compost of sea-waure, chalk, lime, and earth. The land (supposed to be in grass and poor) is to be first dressed in the spring with a mixture of foot, wood ashes, and slaked lime, which brings plenty of grass ; this is fed off, and the field is ploughed against winter, during which five loads of the compost are spread upon each acre, and immediately ploughed again ; the land must be kept ploughing the *whole following summer*, and in the following winter five loads more of the compost are laid upon each acre ; oats are sowed in the spring ; it is winter fallowed, and in the frost another five loads of the compost become necessary, and the land must be kept ploughing *all the summer* ; wheat follows, but the seed must be sown thin ; the next crop is barley, and as soon as it is off, the land must be dressed with sea-waure alone ; and the next spring with oats and grass seeds. When this lay is again broken up, a slight dressing of either dung or sea-waure, will be sufficient for three succeeding crops of corn. At the conclusion of this letter, sea-land is strongly recommended for stiff clay soils.

ART. 8. *A Translation of a Letter on the Culture of Saintfoin in Switzerland.*

Saintfoin is not nice with respect to soil, but grows in almost any, if we except such as are clayey, very damp, and low, or *stoney* ; and that which grows on poor land is most nourishing



nourishing and heartening for cattle. Where there is a choice of soil, a light land gently sloping on the south side of an eminence is always preferred. It does not thrive in the shade, and is sometimes chilled with the snow, hence the land should not be too flat or level. The land is ploughed deep and well, and made fine; and then sowed alone three times as thick as wheat; or in other words with the same *weight* of seed. It should not however be fed the first year, as the treading of the cattle will destroy the crown of the plant, and prevent its shooting the succeeding year: and *sheep should never be turned in to feed on it, as they will crop it so close, as to prevent its budding.*

The young plants are very apt to be choaked by weeds; from which they must be kept clear till they get a-head of the weeds. It is always mowed the first year, which causes the plants to branch, and gives strength to the roots; the succeeding years produce each three crops of green fodder, or two of hay; many prefer the former to the latter, on account of the difficulty sometimes required to make it into hay in moist weather.

Saintfoin is a hardy plant, and as the roots penetrate deep into the earth, they do not exhaust the surface so much as might have been expected from such a luxuriant plant. It will last on a good soil sixteen or twenty years in prime, and even longer, with care; and if some well rotted dung is laid on it, in seven or eight years after sowing, its duration will be greatly increased: When sown on light land, marling it is of very great service. But if after all a piece of saintfoin should fall off, the field is ploughed as deep as possible in autumn; again in the spring, and sowed with oats; when these are off, it is sowed with wheat, and the following August with saintfoin, which in general succeeds.

It is so very sweet that cattle eat it too greedily, which often occasions a surfeit; they should therefore at first have but little given them at a time, that they may be habituated to it by degrees. It is apt to make horses thick winded and foggy, on which principle it is better for slow draught horses, than for such as are used where speed is required.

[This gentleman says saintfoin will grow in almost any soil; we have known it tried in sandy soils in different places, but it did not succeed. He condemns the stoney soils; and yet it is known to flourish greatly on stone brash soils, and improves them the most of any grass we have, being infinitely superior to clover, rye grass, &c. Saintfoin loves a *warm* soil, and if it be stoney, flinty, or chalky, though the staple be thin and shallow, the crops will be amazing.

We

We should not therefore too hastily adopt the sentiments of foreigners relative to the culture of vegetables; the soil and climate may differ extremely.

The wise editors of the work, in a note, think it likewise most eligible to exclude sheep from this grass, till it is mowed and given to them.—Whoever wrote this note, we will venture to affirm, is a stranger to the cultivation of saintfoin, or he would not have advanced so great an absurdity. The notion of sheep injuring saintfoin so much, that they must not be permitted to feed on it, is a mere vulgar error, which we have refuted in the sixth number of the *Farmer's Magazine*; but it now becomes necessary, however, to say a few more words on this subject. The Hampshire Farmers (particularly near Andover and Weyhill) raise large quantities of saintfoin; they sow it upon their thin stony, or chalky soils, and mow prodigious crops; they commonly manure it with coal ashes, or Newbury peat ashes. It may be superfluous to add that they have large flocks of sheep, this circumstance being so notorious; but they all feed this grass with their sheep, and are careful only not to turn the sheep upon the young saintfoin before the beginning, and sometimes the middle of October; because it being very sweet, they bite the young and tender shoots too close, and injure the crown of the root; but after that time they turn their sheep upon it with the utmost freedom.]

*ART. 9. A Letter relative to an Experiment made in the year 1757. of Transplanting some Trees in the Summer whilst the Sap was in Motion, and they were in full Leaf.*

THE trees thus transplanted were the White Bullace, Filbert, and cobnut. A piece of fresh land in the corner of a field was well dug; the trees were then taken up, and all the bruised and injured parts of the roots, and those only, cut off with a sharp knife; the heads were next pruned in proportion to the loss of their roots, it being supposed by many that every branch has its corresponding root in the earth. When they were put into the ground, the earth was carefully settled about their roots, and stakes were driven into the ground to prevent their being shaken by the wind; and then they were watered plentifully for several successive evenings. Care was likewise taken to mark the north side of the plants, and to place those marks again facing the north, it being supposed essential.

The result was, that such as were taken up with their roots entire, were very little checked in their growth; such as had lost part of their roots, and were pruned in their heads, were in a thriving state; and those which had in part or entirely lost their fibrous roots were considerably checked or quite dead.



He recommends placing the roots as nearly as possible in the situation they were in before transplanting, and to cut off none but such as are dead or bruised; and to observe this latter rule with respect to the branches. The trees are now (1769) fine and flourishing, and the fruit seems improved.

[The Editors in a note (on the authority of Mr. Miller) think very justly that the circumstance of planting young trees with that side facing the north, which was originally so, to be of little or no consequence. If large timber trees, were to be transplanted in extreme cold climates, it would perhaps be very necessary to pay some regard to this circumstance; for in North America the bark on the north of the tree is considerably thicker than it is on the south side; it differs so much in colour, &c. as to serve the Indians as a guide in passing through their extensive woods; but the TREES, if they may be called such, mentioned in the preceding letter, were *young ones, and plants, and shoots*. See a letter on this subject in the *Farmer's Magazine* for this month, page 33.]

ART. 10. *Mr. Jeremiah Brown's Method of making Saltpetre.*

ART. 11. *A Letter to the Editors, containing Leading Questions in Agriculture for the Use of Correspondents.*

[These *leading questions*, which are mostly borrowed from a foreign tract, are very proper for the Society of Arts, &c. to send to their correspondents from whom they expect any information on agricultural affairs; but they cannot be abridged.]

ART. 12. *A Letter, recommending the Culture of Vines in our North-American Colonies.*

[The following note by the Editors will not, however, much conduce to the culture of vines in England, which some writers recommend. "In some parts of Italy they reckon a vineyard which has not been planted 100 years to be young. In Chianti, a vine of 100 years of age is accounted young: the vines there last above 300 years, and in other parts of Italy, commonly 140, or 150 years."]

ART. 13. *A Letter recommending a sure Method of Curing Gravel Walks, which being in a shady Situation are subject to breed Moss.*

This is effected by watering the walks with brine not very strong, (to be repeated every spring and fall;) which likewise destroyed the worms that infested the walks. As a great deal of meat was salted for the family, all the brine was saved and afterwards mixed with water.

[Chamber lye will produce the same effect; and will soon destroy the moss which gathers on the roofs of houses which are tiled.]

ART. IX. *A safe, easy, and cheap Cure for a broken-winded Horse.*

A Broken-winded horse had been kept in a field where there was no water, except in the bottom of an old lime-kiln, and had recovered his wind; the owner ordered the stable shovel full of quick-lime to be renewed every five or six days, and the water to be poured off, and a bucket of it to be given very day to a broken-winded coach-horse, aged about eighteen years, who had almost a constant cough. The horse was watered with water thus prepared, for about five weeks, and kept in the stable; he is now perfectly recovered in his wind, and free from a cough.

ARTICLE X.

Mr. SYLVAN,

I Find that some of your correspondents are unwilling to have any more poetry in the *Farmer's Magazine*, because it is principally intended to communicate *useful* matter: Granted: but I see no reason why we should be entirely debarred from the *amusing*. The inclosed quotation from old Tuffer, who lived in the time of Edward the VIth, is both useful and entertaining, being a Poetical Vindication of Inclosures. I hope your readers will be pleased with the old gentleman's rhiming so prettily with his *t'one* and his *t'other*, and consider it as a proper supplement to what I sent you from Judge Fitzherbert on the same side of the question.

I am, &c.

S. G.

*A Comparison between Champion Country and Inclosure.*

THE country inclosed I praise.

The other delighteth not me,

For nothing the wealth it doth raise

To such as inferiour be.

How both of them partly I know,

Here somewhat I minde to shew.

Their swine-heard that keepeth the hog,

Their neatheard with curre and with horn,

Their sheep-heard with whistle and dog,

Be fence to the meadows and corn.

Their horse being ty'd on a balke,

Is ready with thief for to walke

Where



Where all things in common doe rest.  
 Corn-field with the pasture and mead,  
 Though common ye doe as the rest;  
 Yet what doth it stand you instead?  
 Their commons as commoners use,  
 For otherwise shalt thou not chuse.

What Laire much better than there?  
 Or cheaper thereon to doe well?  
 What drudgery more any where?  
 Lesse good therefore, where can ye tell?  
 What gotten by summer is seen,  
 In winter is eaten up cleane.

Example by Leicestershire,

What soyle can be better than that  
 For any thing heart can desire?

And yet they want ye see what,

Mare, Covert, Close, Pasture, and Wood,

And other things needfull is good.

All those doe inclosure bring,

Experience teacheth us lesse,

I speake not to boast of the thing,

But only a truth to expresse.

Example (if doubt you do make)

Of Suffolke and Essex goe take.

More plenty of mutton and beeve,

Corne, butter and cheese of the best,

More wealth any where to be brieve,

More people more handsome and prest,

Where finde yee? Goe search any coast,

Than there where inclosure is most.

More worke for the labouring man,

As well in the towne as the field,

Or therefore devise (if you can)

More profit what countrey doth yeeld,

More seldome where see yee the poore

Goe begging from doore to doore?

In Newfolke behold the despaire

Of tillage too much to be borne,

By drovers, from faire unto faire,

And other destroying the corne,

By custome, and covetous pates,

By gaps and opening of gates.

What

What speake I of commoners by  
Withdrawing all after a line,  
So noying the corne as it lye,  
With cattell, with coneyes and swine?  
When thou hast bestowed the cost,  
Look halfe of the same to be lost.

The flocks of the Lord of the foyle,  
Doe yearly the winter corne wrong,  
The same in a manner they spoyle,  
With feeding so low and so long.  
And therefore that champion field  
Doth seldom good winter corne yeeld.

By Cambridge a towne I do know,  
Where many good husbands do dwell,  
Whose losses by losses doth shew,  
More here than is needful to tell.  
Determine at court which they shall,  
Performed is nothing at all.

The champion robbeth at night,  
And proleth and filcheth by day;  
Himselfe and his beasts out of sight,  
Both spoyleth and maketh away,  
Not onely thy grasse, but thy corne,  
Both after, and y<sup>e</sup>r it be thorne.

Pease bolt with thy pease he will have,  
His household to feed and his hog,  
Now stealeth he, now will he crave,  
And now will he cozen and cog.

In Bridewell a number be stript,  
Lesse worthy than thiefe to be whipt,  
Lord if you doe take them what stirs?  
How hold they together like burs?

For commons these commoners cry,  
Inclosing they may not abide,  
Yet some be not able to buy  
A cow with a calf by her side;  
Nor lay not to live by their worke,  
But theevishly loyter and lurke.

The Lord of the towne is too blame  
For these, and for many faults moe,



For that he doth know of the same,  
 Yet lets them unpunished goe.  
 Such Lords ill example do give,  
 Where varlets and drabs so may live.

What foot-paths are made, and how broad?  
 Annoyance too much to be borne,  
 With horse and with cattell, what road  
 Is made through every man's corne?  
 Where champions ruleth the roast,  
 There daily disorder is most.

There sheep when they drive to wash,  
 How careless their sheep they doe guide?  
 The Farmer they leave in the lash,  
 With losses on every side:  
 Though any mans corn they do bite,  
 They will not allow him a mite.

What hunting and hawking is there,  
 Corne looking for sickle at hand?  
 Acts lawlesse to doe without feare,  
 How yearly together they band?  
 More harme to another will doe;  
 Than they would be done for unto.

More profit is quieter found,  
 Where pastures in severall be,  
 Of one silly acre of ground,  
 Than champion maketh of three.  
 Againe, what a joy is it known,  
 When men may be bold with their own.

The t'one is commended for graine,  
 Yet breade made of beanes they do eat;  
 The t'other for one loose hath twaine,  
 Of mellin, of rye, and of wheat.  
 The champion liveth full bare,  
 When wood-land full merry do fare.

T'one giveth his corn in a dearth,  
 To horse, sheep, and hogs, ev'ry day,  
 The t'other give cattell warme bath,  
 And feeds them with straw and with hay.  
 Corne spent of the t'one so in vaine,  
 The t'other doth sell to his gaine.

T'one

T'one bare-foot, and ragged doth goe,  
And ready in winter to starve,  
When t'other yee see doth not so,  
But have what is needfull to serve.  
T'one paine in a cottage doth take,  
When t'other trim bowers doth make.

T'one layeth for turfe and for sedge,  
And hath his wonderfull suit,  
When t'other in every hedge  
Hath plenty of fuell and fruit.  
Evill twenty times worser than these,  
Inclosure quickly would ease.

In wood-land the Pope-men that have  
Scarce sully two acres of land,  
More merrily live and doe save,  
Than t'other with twenty in hand.  
Yet pay they as much for the two,  
As t'other for twenty must doe.

The labourer comming from thence,  
In wood-land to worke any where,  
I warrant you goeth not hence  
To worke any more againe there.  
If this same be true (as it is)  
Why gather they nothing of this?

The poore at Inclosure do grudge,  
Because of abuses that fall,  
Lest some man should have too much,  
And some againe nothing at all;  
If order might therein be found,  
What were to the severall ground?

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ART. XI. *Useful Forms in Conveyancing, &c. for Men of  
Business. Continued.*

*Of Indorsements on Notes, Drafts, &c.*

**I**T is usual for the person in whose favour a bill is drawn, to write his name upon the back of the bill (when he pays it away) and this, as we have already observed, is called indorsing it. If he only writes his name, it is properly called a blank indorsement; this, if the bill be sent by the post, is dangerous; for should the letter miscarry, or the bill be taken out, it may  
be

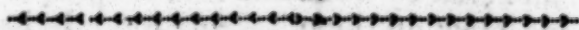






T H E

## FARMER'S MAGAZINE.



A DISSERTATION *on the Progress and present State of*  
AGRICULTURE. [Continued.]

### *American Husbandry.*

NO judgment of the climate of Canada or Nova-Scotia can be formed from the latitude; for between the same degrees we find some of the finest and pleasantest countries in Europe. Their winters are long, and, to new comers, dreadfully severe;\* deep rivers are frozen over in a few nights, so as to bear carriages, and the snow lies six feet deep for several months. The peasants, shut up in their houses, lead a miserable life, almost as torpid and lifeless as the vegetables of their country. The cold is so amazingly intense, as almost to stop respiration; it benumbs the faculties of the mind, and locks up the hand of industry,

Thermometers, though intended for the climate, are of little use: The strongest wines freeze in a room which has a stove in it, and brandy thickens like oil; the largest wood fire in a wide chimney, scarcely throws out its heat a single yard.

This is owing to the north-west wind, vulgarly called *Jack Nor-West*, which renders the climate of all North-America so peculiar. This wind, blowing over an immense extent of ice and snow, possibly from the North-pole, by which it acquires its extreme coldness, is felt throughout the continent, even to Charlestown in South-Carolina. All who have felt this keen cutting wind, affirm, that we in these temperate climes can form

\* The Savages pretend to judge of the length and severity of the winter at the time of its setting in, from the winter stock of the Beavers; these animals, as they suppose, being endued with sagacity and foresight to judge of its duration, lay up a proportional stock of provisions.



form no idea of it. But piercing and severe as it is, we can by no means credit the description which Mr. Y. gives us of it in his *American Husbandry*.

"The north-west wind, (says he) blows through winter with a severity that is scarcely credible; it plainly comes through all walls that are not very thick; a candle is blown out when held against a wall that is only a brick and a half thick: all the inside of such walls are covered with snow blown through, on the side against the north-west; and the walls must be of a vast thickness, at the same time that the house is well sheltered by wood and hill, for people within not to feel the wind blow on them." Again; "It has been absolutely asserted, that it has blown over the whole Atlantic Ocean, and been felt in Europe."—Surely, surely, this is saying too much a great deal, but this gentleman seems to be not a little fond of the marvellous.

After about a fortnight's snowy weather, at the beginning of winter, the sky becomes clear, and the sun shines with peculiar lustre. The scene is changed, and the lovely landscape is now one undistinguished waste of snow, only a little diversified by the great variety of evergreens in the woods.

As there is no business done in the towns in the winter, it becomes the season of general dissipation, particularly in Canada; amusement is the study of every body. Both their houses and carriages are uncommonly warm; the clear serene sky, the dry pure air, the little parties of dancing, &c. the good tables they keep, the driving about on the ice, and the abundance of people we see there, for every body has a carriage, the variety of objects new to an European, keep the spirits in a continual agreeable hurry that is difficult to describe, but very pleasant to feel; upon the whole, those who have a taste for these amusements, are not sure that it is not a pleasanter winter than that of England.

The open carriage is a kind of one-horse chaise; the covered one a chariot, set on a sledge to run on the ice. The covered carriages have canvas windows, (glass would be dangerous, because they often overturn) and cloth curtains to draw all round; the extreme swiftness of these carriages, which dart along like lightening, though drawn but by one horse, helps to keep one warm, by promoting the circulation of the blood; even an overturning has nothing alarming in it; you are laid gently down on a soft bed of snow, without the least danger of any kind.

The men in the open carriages are all wrapped in furs from head to foot; you see nothing of the human form appear but the

the tip of a nose. They have entire coats of beaver skin, and casques on their heads; for without this kind of cloathing it would be impossible to stir out.

The ladies are equally covered up, though in a less unbecoming stile; they have long cloth cloaks with loose hoods, and a large buffaloe's skin under their feet, which turns up and wraps round them almost to their shoulders; so that they are pretty well-guarded as well as the men.

The fishermen, to shelter themselves from the excessive cold of the night, sometimes build small houses of ice on the large rivers, which are arranged in a semicircular form, and extend near a quarter of a mile, and which, from the blazing fires within, have a brilliant transparency and vivid lustre, not easy either to imagine or describe. They break openings like small fish-ponds in the ice, to which the fish coming for air, are taken in prodigious quantities on the surface.

The winter in Canada is not, however, absolutely without employment; wrapt up well in furs, winter expeditions are undertaken; and sawing and cutting lumber go on; though not with near such alacrity and effect as in the more southern colonies, where the work-men are employed as regularly in that season, as in summer.

About the beginning of April the snow begins to melt; and, as the breaking up of the ice, which forms what is called the *bridge*, from Quebec to Point-Levi, presents the beholder with an object both beautiful and magnificent, and exquisitely pleasing from the idea it gives of renewing the intercourse with Europe; crowds of all sexes, and of all ranks, attend to hail the propitious moment.

Sublimity is the characteristic of this western world; the loftiness of the mountains, the grandeur of the lakes and rivers, the majesty of the rocks, shaded with a picturesque variety of beautiful trees and shrubs, and crowned with the noblest of the offspring of the forest, which form the banks of the rivers, speak the inimitable hand which form them, and are as much beyond the power of fancy, as that of description.

—The object of which we are now speaking has all the American magnificence.

The ice, or, to speak in the Canadian stile, the *bridge*, being not less than five feet thick, and of prodigious length and breadth, resists, for a long time, the rapid tide that attempts to force it from the banks.

Every increase of heat in the weather, for near a month before the ice leaves the bank; every warm day, makes one



tremble for those we see passing it in their carriages; yet one frosty night makes it again so strong, that even the ladies still venture themselves over in parties of pleasure; though greatly alarmed at their return, if a few hours of uncommon warmth intervene.

During the last fortnight, the alarm grows indeed a very serious one; the eye can distinguish even at a considerable distance, that the ice is softened and detached from the banks; and you dread every step being death to those who have still the temerity to pass it, which they will continue always to do till one or more pay for their rashness with their lives.\*

From the time the ice is no longer a bridge, on which such crowds drove with such vivacity on business or pleasure, every one looks eagerly for its breaking away.

The rapidity of the current having forced a passage for the water under the transparent bridge, which, for more than a league continues firm, the tide rushes with an amazing impetuosity; the bridge seems to shake, but yet resists the force of the waters; the tide recoils, it makes a pause, and seems to stand still, but returns with redoubled fury, and the immense mass of ice gives way. A vast plain then appears in motion; it advances with solemn and majestic pace; the points of land on the banks of the river for a few moments stop its progress, but the immense weight of so prodigious a body, carried along by a rapid current, bears down all opposition with a force that is irresistible. Hence there neither are nor can be any bridges erected across the large rivers in these northern climates.

The changes of seasons in England being slow and gradual, are but faintly felt; but being here sudden, instant, and violent, afford to the mind, with the lively pleasure arising from mere change, the very high additional one of its being accompanied with grandeur. The variety as well of grand objects as of amusements, confirm many in their opinion of Providence making the conveniencies and inconveniencies of life nearly equal every where. The pleasures in winter are peculiar to the climate; and counterbalance the evils suffered from its rigour.

The quickness of vegetation is astonishing; though the hills are covered with snow, and though it even continues in spots  
in

\* When the people in America walk over the ice, they commonly carry a long stiff pole in their hands, like balance masters, so that if the ice should give way, they are in much less danger of being drowned; we recommend this custom to the English people, when they are obliged to cross brooks or rivers in the frost; as the ice rarely breaks for such a length at one time.

in the vallies, the latter, with the trees and shrubs in the woods, are by the beginning of May in beautiful verdure, and the earth every where putting forth flowers in a wild and lovely variety and profusion; cranberries are found as soon as the snow melts away, in tolerable perfection.

Nothing, can be more true, than that poverty is ever the inseparable companion of indolence.—With a fruitful soil the Canadians are poor on lands which are their own property, and for which they pay only a trifling quit rent. This indolence appears in every thing; you do not see the meanest peasant walking; even riding on horseback appears to them a fatigue insupportable; you may see them lolling at ease like their lazy lords in carriages, or calashes, according to the season; a boy to guide the horse on a seat in the front of the carriage, too lazy even to take the trouble of driving themselves; their hands in winter folded in an immense muff, though perhaps their families are in want of bread to eat at home.

The winter is passed in a mixture of festivity and inaction; dancing in their gayer hours; and in their graver, smoking and drinking brandy by the side of a warm stove; and when obliged to cultivate the ground in spring to procure the means of subsistence, you see them just turn the turf lightly over, and without manuring the ground, or even breaking the clods of earth, throw in the seed in the same careless manner, and leave the event to chance, without troubling themselves further till it is fit to reap.

It must, however, be observed, that there is something in the climate which strongly inclines both the body and mind, but rather the latter, to indolence. The heat of the summer, though pleasing, enervates the very soul, and gives a certain lassitude unfavourable to industry; and the winter, at its extreme, binds up and chills all the active faculties of the soul. Add to this, that the general spirit of amusement so universal here, in winter, and so necessary to prevent the ill effects of the season, gives a habit of dissipation and pleasure, which makes labour doubly irksome at its return.

The air being uncommonly pure and serene, the people generally live to a very advanced age, and are remarkably free from diseases of every kind, except consumptions, to which the younger part of the inhabitants are a good deal subject. It is, however, a circumstance one cannot help observing, that they begin to look old much sooner than the people in Europe; so that it has been humourously observed, that they have a short youth and a long old age.

The diseases of cold countries, are in general owing to want of perspiration; for which reason, exercise is here the best medicine.



dicine. The Indians therefore, shewed their good sense in advising the French, on their first arrival, to use dancing, mirth, cheerfulness, and content, as the best remedies against the inconveniencies of the climate.

To many people, the summers are divine, the heat much resembling that in Italy and the south of France, without that oppressive closeness which generally attends our hot weather in England; though the days are much hotter, yet the heat is more supportable, from the breezes which always spring up about noon; the evenings are charming beyond expression. The verdure is equal to that of England, and in the evening acquires an unspeakable beauty from the lucid splendour of the fire-flies sparkling like a thousand little stars on the trees and on the grass.

Their autumns are just like the finest in England; but the beauty of the nights is much beyond the power of description; a constant *Aurora Borealis*, without a cloud in the heavens, and a moon so resplendent, that you may see to read the smallest print by its light; but then, the smiling spring is not there, they pass from winter to summer in an instant.

With respect to their fruits, they have cranberries, strawberries, and raspberries, growing wild in great profusion; great plenty of currants, plumbs, apples and pears, a few cherries, and grapes, but not in much perfection: excellent melons, musk and water melons, in abundance; not a peach, nor any thing of the kind, but this is less the fault of the climate than of the people; the wild fruits are in much greater variety and perfection than in England; hemp and hops grow every where in the woods.

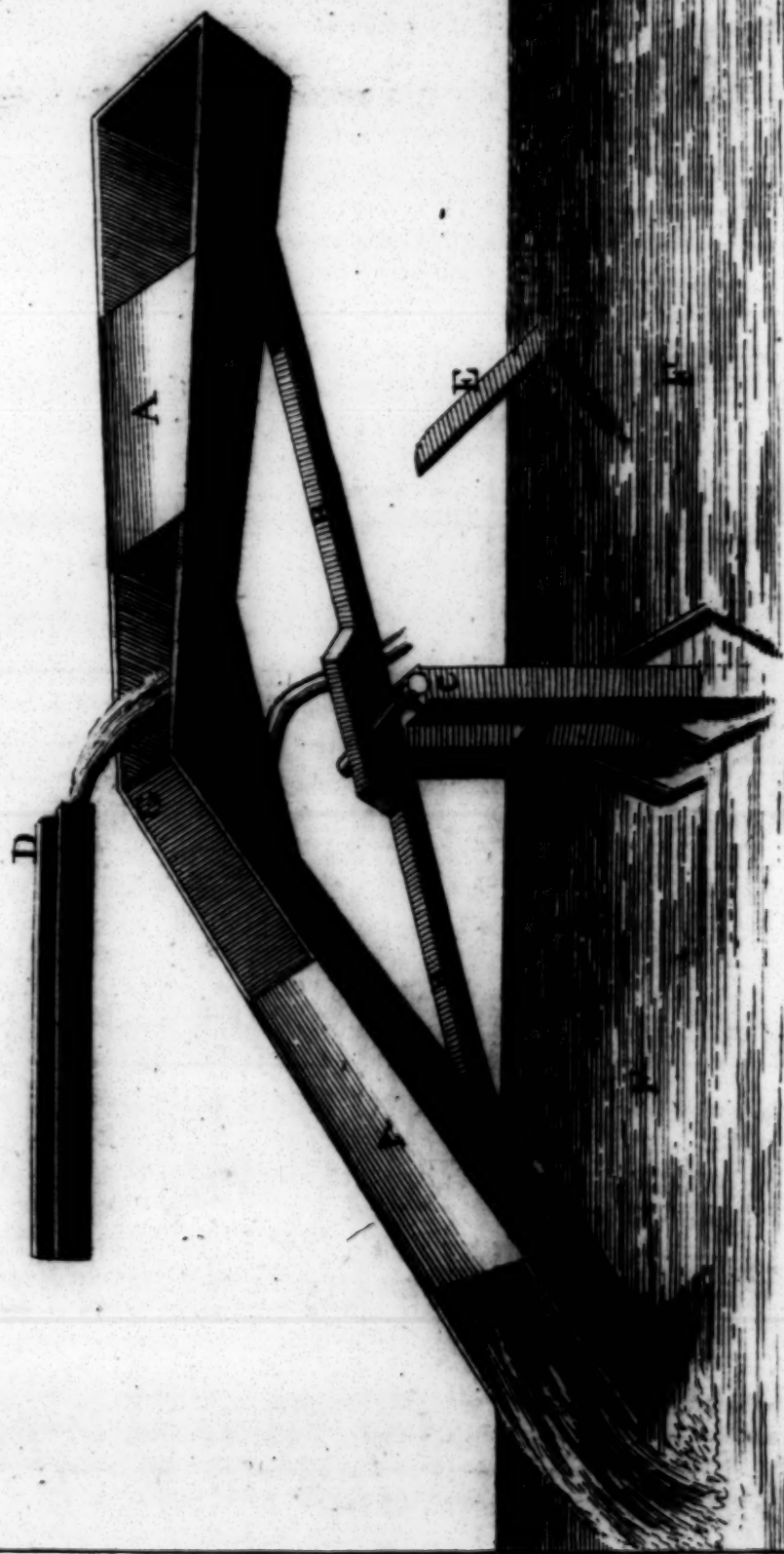
A little corn, a little hay, a little tobacco, half a dozen apple trees, a few onions and cabbages, make the whole of a Canadian plantation. They sow their wheat in the spring; for they fancy the frost would destroy it if sown in autumn; but experience has now taught many of them better. They are so indolent as never to manure their lands, or even their gardens; and till the English came, all the manure of Quebec was thrown into the river. The soil is naturally rich, and its fertility is much increased by the snow lying upon it for five or six months.

There is a striking resemblance between the manners of the Canadians and the savages; the peasants have acquired their savage indolence in peace, their activity and ferocity in war; their fondness for field sports, their hatred of labour; their love of a wandering life, and of liberty. They are  
simple





*An Engine to raise Water.*



*Engraved for the Farmers Magazine.*

Simple and hospitable, yet extremely attentive to interest, where it does not interfere with that laziness which is their governing passion. They are rather devout than virtuous, have religion without morality, and a sense of honour without very strict honesty.\*

[To be continued.]

\* Rousseau has taken great pains to prove, that the most uncultivated nations, are the most virtuous; but from all that we have observed, and heard, it appears an undoubted fact, that the most civilized Indian nations, are the most virtuous; a fact which makes directly against Rousseau's ideal system.

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ART. II. *A Description of a simple Engine for raising Water with two Pumps, to supply Gentlemen's Houses, &c. or for draining or watering Land; with a Plate.*

A, A, are two stopping troughs fixed upon the balance beam B, B, and moving upon the center of motion C. The water runs alternately into these troughs from the pipe, or rivulet, D, and so gives motion to the engine.

E, E, are two piston or pump rods, at equal distances from the center, which serve to shew where the pumps are to be placed, and which may be either sucking, or forcing pumps at pleasure, to raise the water from the brook, spring, or reservoir F, F.

G, is a board to divide the two troughs, and to confine the water in each.

These troughs do the same service as an overshot, or any other water-wheel, and cost a great deal less, but give as even and regular a motion as a pendulum for measuring time. For, as soon as so much water runs into either of the troughs in a sufficient quantity, so that its momentum exceeds the friction near the center of motion C, that trough immediately descends, with a velocity increasing, till the balance meets with the resistance of the springs F F, when the trough discharges all its water; and at the same time raises the empty trough on the opposite side, which in the very same moment begins to receive the water, and is filled almost as soon as the former is emptied; and thus the strokes of the pistons are regular and alternate.

The greater the fall of the water is, so much greater will be the power or momentum of this engine; but for a particular explanation of the power of falling bodies, water, &c. see the *Farmer's Magazine*, No. 4.

ART.



ART. III. *A Method of curing a wet marshy Piece of Land.*

Mr. SYLVAN,

I Had a piece of very wet marshy land which produced nothing scarcely but rushes, sedges, &c. Being of opinion that its coarseness was principally owing to the want of draining off the water, I had it perfectly well drained, but this alone did not answer my expectation, for the herbage did not become so fine and sweet as might be wished; I therefore took another course with it. There was a new turnpike-road made near the field, and as the old road was quite neglected, I thought that the old worn out materials, which were dugged mostly in the neighbourhood would sweeten the herbage. I accordingly set my horses and cart to work, and covered the land over with a very slight thin coat of this old gravel from the road, and the consequence was extraordinary indeed. I do not recollect ever to have seen a better change, or more quickly obtained. I am, &c.

March 14, 1777.

J— W—.

ART. IV. *A Cure for a Locked Jaw.*

Mr. SYLVAN,

A Locked Jaw is such a terrible disorder, that every person must be highly pleased with a remedy, were it only palliative.—But perhaps the Faculty cannot give a much better one than opiate clysters, with large quantities of opium or laudanum, repeated; as these seldom, if ever fail to afford relief.

CLERICUS.

ART. V. *A Cure for the Incubus or Night-Mare.*

THE following method of curing, or at least preventing the Night-mare has appeared in the publick prints, I think it promises well, and in short from my own experience have no doubt of its success. I wish you would preserve it in your magazine, and am, &c.

*An Occasional Correspondent.*

A full-blooded robust man was commonly disturbed every night by most horrid dreams, as if he had swallowed knives, razors, or forks, which he endeavoured to bring up in his sleep, and vomited blood in these efforts. Every nervous medicine, and every bath that he used, had no effect, but he was at last cured by this simple means. He was advised to get somebody to wake him soon after he fell asleep; this was accordingly

cordingly done every night for two months, exactly after he had been asleep twenty minutes. He is now recovered, and I saw the letter he wrote to thank the adviser. He is quite well, and has been so a considerable time, and has no more of these frightful dreams. Perhaps a gentle push, not amounting to compleat waking, might answer in many cases. It is always advisable to interrupt every sleep, when one perceives the sleeper to be very uneasy in his sleep."

ART. VI. *To prevent the Sea Scurvy.*

NOTHING can be of more importance to a maritime nation than preserving the health of seamen. The uncommon good state of the health of the crew of the Resolution, during her voyage of three years and eighteen days round the world, through all the climates, from 50 degrees North to 71 degrees South, with the loss of one man only by disease, has occasioned several gentleman, who were surprized at the circumstance, to request Capt. Cook to communicate the methods he took to obtain that end, for the public good. He has accordingly transmitted it to Sir John Pringle, bart. who has laid it before the Royal Society. The substance of it is as follows:

First, They had on board a large quantity of malt, of which was made sweet-wort, and given not only to those men who had manifest symptoms of the scurvy, but to those also who were judged to be most liable to that disorder, from one to two or three pints in a day to each man, or in such proportion as the surgeon thought necessary; which sometimes amounted to three quarts in the twenty-four hours.

Secondly, They had a large quantity of four-crown, a pound of which was served to each man, when at sea twice a week.

Thirdly, They had a liberal supply of portable soup; an ounce of which was boiled with the men's peas three days in the week.

Fourthly, They were furnished with sugar in the room of oil, and wheat instead of oat-meal.

Fifthly, The crew were divided into three watches; by which they were not so much exposed to the weather as if they had been at watch and watch.

Sixthly, The ship was kept uncommonly clean and dry, and a fire made in an iron pot, frequently at the bottom of the well, and the copper was kept exceedingly bright.

Lastly, Fresh water and vegetables were constantly taken in, whenever they could be procured.



Capt. Cook is of opinion, that with plenty of fresh water and a close attention to cleanliness only, a ship's company will not be much afflicted with the scurvy in the longest voyages, though they should not be provided with any of the antiscorbutics before mentioned.

See Dr. Hunter's preparation of carrots, for the sea scurvy in long voyages, in the *Farmer's Magazine*, No. V.

ART. VII. *An Answer to the Query respecting the Cause of Setting ones Teeth on Edge.*

MR. SYLVAN,

IN your first number *Juvenis* desires to be informed how that uneasy sensation in the teeth, called *setting them on edge*, is accounted for. As no answer has yet been given, the following attempt to shew how it is occasioned by sound is at your service.

We have often heard it as a famed phenomenon in music, —if an intense sound be raised either with the voice or some sonorous body, that another sonorous body near it whose tone is either in unison, or an octave, to that sound, will sound its proper note (unison or octave) to the given note. The experiment may easily be tried by the strings of two instruments, or by a voice and harpsichord, or a bell, or even a drinking-glass; but more easily and perfectly in an empty room, vault, or cellar: this consonance of the two sounds is called UNISON.

Now as sound arises from the *tremulous motion* of the parts of any sonorous body when struck upon, and as all hard bodies are more or less sonorous, and sound their proper notes to other sounds, I think we may without hesitation, attribute this thrilling in the teeth to their being equal in degree of tune, to the sound which occasions it, whether it be grave or acute.

If this be admitted, and I see no reason why it should not, for every body knows the teeth are sonorous, we cannot sufficiently admire the wisdom of our Creator, which is so manifest in their conformation, in giving them that peculiar tone with which no sounds are in unison, but such as are the most harsh, dissonant, and grating; such as we seldom hear and naturally fly from. Were sounds that are common or pleasing to excite this uncomely thrilling kind of pain, our lives would be miserable indeed.

In a physical or anatomical sense—if we suppose particular grating sounds to affect the *chorda tympani*, and the minute nerves of the muscles of the malleus (which are both springs from one of the branches of the fifth pair) in an extraordinary

nary manner, it will not seem very improbable, that an uncommon violent vibration of them may sensibly affect those small nerves, which are detached to the teeth of both jaws from branches of the same pair. And since the teeth may be considered as most acutely sensible, it is possible the nervous fibrils may be propagated and inserted into their hard and intimate substance, beyond the reach of anatomy and microscopes, and effect such a thrilling motion in them, as may be analogous to the tremors of the fibres in hard, sonorous bodies; and which motion is perhaps the immediate cause of this odd sensation in the teeth, which seems posterior to that of the ear, tho' so very suddenly successive as to pass for instantaneous.

This unison, or effect of two sounds that are equal in degree of tune, will likewise account for that groaning in some clocks which is so very disagreeable. The *ticking* is by the friction of the rider communicated to the other parts of the clock, which are in a pretty high degree sonorous; this has so much puzzled the clock-makers, that many of them, not knowing how or from whence the sound is produced, have thought it to be irremediable; but on this principle it certainly is not so. Hence likewise particular high winds will sometimes occasion hollow, sighing, and groaning sounds in houses, at which I have known people not naturally timid to be much frightened.

I need not enlarge; various instances, not very dissimilar, will occur to every one of the effects of this unison, or consonance of sounds: the following matter of fact will still farther elucidate this subject. As I was playing with my fingers upon a glass window, an acquaintance who had the gout in his foot, but sat at the other end of the room, earnestly desired me to desist, because it occasioned a violent thrilling pain in his foot; by way of satisfaction the experiment was repeated, and the effect was precisely the same.

Bath, March 15.

SENEX.

[We have heard it laid down as a rule adhered to by some clergymen, that a minister should endeavour to find out the key or tone of the church; which having done, he is to modulate his voice accordingly, by which means he will read much louder and with more ease to himself.

We are inclined to believe, that *snitch* differs but little if at all from an instantaneous echo; but this is merely opinion, and therefore we do not mean to give it as a positive assertion.]



ART. VIII. *A cheap Method of raising a Crop of Potatoes.*

Mr. SYLVAN,

YOU have been kind enough to take notice of several little pieces that I have sent you; the following hint cannot fail of pleasing some of your readers.

As I farm a deal of land, I raise a large quantity of dung, which I commonly mix with earth in very large heaps. Upon the top of these heaps I plant potatoes, which from the heat of the compost are always very large and fine; the quantity likewise is uncommonly great. I raise more every year in this manner than serves my family.

*A West-Country Farmer.*

[While our Correspondents favour us with real practical hints, they may always depend on having them inserted; we are the most obliged, and are proud to enrich our miscellany with facts, experiments, or remarks, which we are persuaded will so much contribute to the information of our readers.]

ART. IX. *On the Benefit of sowing Clover in Common Fields in the Fallow Years.*

Mr. SYLVAN,

I Have frequently thought that the Farmers are in general much to blame, for not sowing clover upon their plots of land, that are dispersed in the common fields in those years when the fields by custom are fallow. They commonly object, and say, that if they were to sow grass seeds, their neighbours would eat up the grass, as it would be then common, and of course they would receive the most benefit by this kind of husbandry.

This may in part be admitted, but then it should be considered, that as the sheep and cattle will be mostly upon these plots, they will manure them. Besides, sowing clover will mellow and enrich the soil, keep down the weeds, and so prepare it for a crop of corn; and the expence of sowing a little clover seed is (comparatively) not great.

VIATOR.

This is in some places practised with great success; but in other places we have known it fail. For where the land is low, and large flocks of sheep are kept, some of the avaritious farmers, as soon as harvest is over, will keep their sheep constantly upon the young grass; and their feeding, treading, and lying upon it while it is so tender, never fails to kill it; so that under such circumstances it could not answer any good end for an individual to sow any kind of grass seeds.]

ART. X.

**ART. X.** *On the Benefit of sowing Burnbeat Ashes on Pasture Land.*

Mr. SYLVAN,

**S**OMETIME ago, I burnbeated a piece of land in order to sow wheat, and being willing to try an experiment, I ordered my servants to cart a few load of the ashes and spread them thin upon some of my pasture lands; the crop of grass in return was very great, and the herbage was fine and sweet, and abundantly better than in any other parts of the pasture. If you think this experiment worth your notice; let me see it in the Farmer's Magazine, and I may send you another experiment or two.

*One of your Purchasers.*

[We refer our readers to the 5th number of this work, where they will meet with a variety of practical remarks on the nature of burnbeating and the ashes; but as this particular experiment was not alluded to we are glad to give it a place here; it wants no encomium, every Farmer will see its justness and propriety, and know how to apply it to the best advantage.]

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**ART. XI.** *Remarks on Harrowing Wheat in the Spring.*

Mr. AGRICOLA SYLVAN,

**I** Shall introduce my remarks with the following story, which gave rise to the custom of harrowing wheat in the spring, which now prevails in a certain part of the kingdom.

Farmer Sims and his neighbour Farmer Hanksey were upon the best terms of friendship, and had a very great regard for each other: The former had fallen in with the custom, but the latter looked upon it as a new-fangled scheme, invented by some Book-Farmer, and therefore laughed at the folly of his neighbours, who he thought were at great expence to get their wheat into the ground; and then, like the wise men of Gotham, dragged it up again. They had both some lands in a common field, and it happened that as Farmer Sims was harrowing his wheat, he was obliged to turn out upon the head-land adjoining, which belonged to his friend Hanksey, in doing which he in fact hartowed his wheat at the same time; but as his friend knew he was no stranger to his sentiments, he considered it as a downright wilful affront, and with as little ceremony as the other had used, he flies directly to an attorney, and ordered him to bring an action against Farmer Sims for the damages, thinking that his wheat was quite spoiled by his unnecessary officiousness. It has often been remarked, and I think justly, that the greatest differences

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and quarrels among friends generally arise from the most trivial causes; this is easily enough accounted for; but I must go on with my story. The Lawyer writes to Farmer Sims, who is as much surprised at this kind of treatment; but goes over, and after a good deal of altercation, (and reflections upon each other for supposed ill treatment) he addresses Farmer Hanksey thus: "You think that I have done you a great injury; I think otherwise; but we must wait till harvest before any person can tell which of us is in the right; do you chuse one farmer, and I will chuse another, and whatever damage they assess I shall readily pay, and here take my note in the mean time for payment." Well, harvest comes, and the wheat which had occasioned so much dispute proved the best of any that Farmer Hanksey had in the field.

But what was the consequence of this? why, every person began to harrow his wheat in the spring, without considering whether it was right and proper, and suitable to his soil: but the English love extremes. One while their coats must hang dangling and twisting about their heels like petticoats; by and by they will hardly cover their posteriors, and look more like long waistcoats than any thing else. It is just the same in physic; for no sooner is a good medicine found out, but the people think it must cure every body, which never fails to bring the medicine into disgrace. Just so it is in husbandry; at one time we could hear of nothing but eight or ten crops of wheat raised successively on the same land without any dung; this was excellent; every gentleman was convinced it might easily be done, and immediately undertook to prove, that the Farmers in thinking otherwise were the most obstinate perverse people upon earth; but instead of proving this, they in a few years proved to all the world, that their crops would not pay their expences.

I am not against Gentlemen's trying experiments; they ought to try them; and when they find their experiments answer, upon different soils and in different seasons, let them publish them to the world, but not before.

I likewise know that good tillage will do wonders; and that, in soils which are good and fresh, or which have been under bad husbandry, several tolerable crops of wheat in succession may be had; but this will not justify the universal practice, nor would I recommend it at all, for I think there is nothing got by it in the end; but this by the bye, I may touch again upon it another time.

What I said about ploughing different soils in your sixth number is in part applicable to the subject in hand. Where the

the soil is strong or stiff, harrowing the wheat in the spring will be of the utmost service to it; and the harrow should be proportioned to the strength and stiffness, or hardness of the soil; for it will not much benefit the corn to scratch or rather score the surface of a hard clay soil, just as though a harrow with wooden tines had been drawn over it. But there are other soils where harrowing is very improper, and injurious to the wheat; these are all the light, loose, and dusty kinds of soils; a roller would be more proper for them than a harrow. A wiseacre (whose name I shall not mention) had some wheat on this kind of very light loose soil; and in order to be convinced whether harrowing wheat in the spring was profitable husbandry or not, harrowed part, and left the other part unharrowed. At harvest he found the best crop upon the latter, which has fully convinced him that it is unprofitable. Now a very little reflection would have taught him as much as he knows without trying the experiment; for as the soil was very light, he might naturally suppose that the harrows would loosen it so much that it could not possibly support the crop, and that a great part would likewise be dragged out of the ground.

W—SHIRE.

An OLD FARMER.

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ART. XI. *An Abridgement of the Articles published in the MUSEUM RUSTICUM, with Remarks.* Continued.

Art. 14. *A Letter on an improved Method of tinning Copper-Vessels lately invented in France, and a new Metal nearly equal to Silver.*

**T**HERE is one *Vidal*, a brazier at Paris, who says he is possessed of a secret of tinning copper vessels in a manner peculiar to himself, so that the vessels tinned by him are not subject to verdigrease.

Mr. Bootle, a brazier, in London, undertook to imitate this, and received a premium from the Society of Arts, in consequence of their advertisement; but whether it be equal to Vidal's is not determined.

The *Sieur Vidal* and son likewise composed a metal in imitation of silver, but without the least admixture of silver in its composition; it is white through its whole substance, without smell, malleable, and not brittle. Some members of the Royal Academy of Sciences having approved of the composition, letters patent were granted for the sole making and vending for thirty years, any thing wrought in this metal, except drinking vessels and kitchen utensils. Hence it is inferred



red that the metal contains some noxious qualities. The letter concludes with a wish that the Society would offer a premium to the person who should discover a more perfect and durable method of silvering brass than that now in use.

[We have not seen any copper vessels tinned by Vidal; but we know that Mr. Bootle's method is incomparably better than that shameful one commonly made use of by braziers and tinkers, who seldom or never attempt to tin vessels without pewter, in which it is well-known there is a considerable portion of lead.]

Art. 15. *A Letter to Dr. Templeman, Secretary to the Society, &c. describing a new invented Granary for preserving grain.*

Art. 16. *A Letter relative to the management of early blowing Tulips.*

THE soil was a light porous earth, with which some peat was mixed, and thrown into a heap till the peat was well rotted; after which the heap was turned and mixed. When used for the flower beds, an eighth part of sea-sand, and an eighth part of brick rubbish, which has been laid in a road to be ground to dust by the carriages: it is then to be carefully skreened, stones being injurious to tulip roots.

The roots are planted the latter end of August, and the borders sheltered from the Northern and Eastern winds; the beds are kept clean from weeds, and as few of the flowers as possible are suffered to be gathered, by which means the roots attain their full strength and vigour.

For some weeks in the spring, the beds are covered with mats, but they lie hollow so as to admit a current of air between the mats and the bed. When the Tulips are in flower, they are shaded from the midday sun, with moveable blinds.

Great care is to be used in taking up the roots, to prevent their being either bruised or injured; they are to be then dried very gradually in the shade, turning them often, and when they are thoroughly dry, the dust is carefully rubbed off with a soft brush, lest it should harbour insects or their eggs; they are now to be put up in paper bags, and hung up in a dry room till the season for planting comes, when they should be planted five inches deep.

The gentleman who communicated this letter, living in an inland county, procured some fine pit-sand, upon which he poured some brine and urine, and found it to be an excellent *succedaneum* to sea-sand. He likewise says, that he has found, both by information and experience, that any thing which

which will bring the mould or fresh earth to a proper state of poverty, answers the purpose as well as brick or lime rubbish.

[Mr. Miller says, the best compost earth for Tulips, is, a third part of fresh earth from a good pasture, which should have the sward rotted with it, a third part of sea-sand, and the other part sifted lime rubbish.

We have known an excellent compost for flowers, made of fine light mould, a little melon earth, and some sand dug out of a brook. We have likewise seen Carnations blowed much larger than they otherwise would have done, by earthing them up with common sand before they begin to blow.]

Art. 17. *A letter relative to an easy method of forwarding the Ripening of Grapes in England.*

WHEN the season is wet and backward, the vines are so full of sap, that the fruit is supplied with too much nourishment; the sap flows faster into the fruit than it can possibly be evaporated by transpiration, consequently the grapes cannot ripen; for the cause of fruit ripening, is owing to a check which the motion of the sap receives from the heat of the sun, by which means the transpiration gets a-head, the superfluous moisture is extracted, and the fruit is brought to the verge of fermentation, that is, to maturity.

In order, therefore, to check the course of the sap out of the bearing branches into the bunches of fruit, the stalks were cut half through, and the experiment, for the most part, succeeded very well; while of those that did not undergo this operation, not one in a hundred of them was eatable; but the season when this experiment was tried, proved to be a very moist one.

[This hint is not new, as may be seen by referring to Miller's Gardener's Dictionary. Perhaps the method used in Italy to ripen their Figs, may be adopted with success for vines that are planted against walls. See this in the *Farmer's Magazine*, No. VIII.]

Art. 18. *A Letter on the nature of the Lime-stone, used as a Manure in Ireland.*

Lime-stone gravel is the common manure in the greatest part of Ireland; and of all manures, there is perhaps the least difference in its qualities. It consists of small round lime-stone pebbles, of a hot nature, generally mixed with a fat, clayey, or loamy earth, and is generally found immediately under the stratum next the turf. The quantity of this gravel (or sand, as they promiscuously call it) for an acre of ley-land, is about six hundred bushels.



In a note, we are told, that M. Du Hamel says, that several years ago, some masons fashioned some blocks of marble on a grass plat, which was afterwards swept clean; yet the grass upon this spot received an addition of vigour from the dust and small clippings of the marble, that it was difficultly kept to a good turf by frequent mowings.

Art. 19. *A Letter, containing a valuable hint respecting the management of Horses and Black Cattle.*

RECOMMENDS giving them salt; and adds, that it will prevent cattle from being surfeited when they are turned into clover, lucerne, &c. and thereby accelerate their fattening.

Art. 20. *A Letter on planting Potatoes, and on the under stratum of the Earth.*

A ROW of elms having been cut down, the upper bed of earth where they grew, was carried away. The spot appeared to be very barren, for no weeds grew upon it for more than a twelvemonth, after which it was dugged two spits deep, and left for a month or six weeks, and then planted with potatoes.

Half the potatoes were cut into quarters, with two or three eyes in each quarter, and laid for two days in a dry, shady, but airy place; the others were planted whole, in order to try the difference. The quarters were planted about six or seven inches deep, and about eight inches asunder: the whole roots were planted eight inches deep, and a foot asunder.

In the summer, the stalks seemed too vigorous; they were, therefore, trodden down, with a view to check the exuberant sap, but not to kill the haulm, which continued growing till autumn, when the potatoes were taken up and laid in dry sand for the winter, being his usual method of keeping potatoes, carrots, and parsnips.

The quantity of potatoes was great; but those from the whole roots were the largest.

[We have given our sentiments more than once respecting the under-stratum of earth; potatoes do not dislike fresh-dug earth, as is evident from their flourishing so much in the untilled sides and corners of arable lands: but, was wheat to be sown upon this raw earth, we are of opinion, the Farmer would scarcely have his seed in return.

The editors say, that nothing is better than dry sand to preserve potatoes, carrots and parsnips during the winter; we know they are much better preserved with ut sand. See the *Farmer's Magazine* Vol. I. p. 258.]

Art. 21.

Art. 21. *A Letter recommending a cheap method of making good wholesome Bread, when wheat-meal is dear.*

THIS bread was made with an equal quantity of boiled turnips and wheat flour, and proved to be good. It required to be baked somewhat longer than bread made of flour only, and at first tasted a little of the turnips; this, however, went off in keeping, though a sweetness always remained; but then it was not disagreeable.

Carrots, parsnips, potatoes, Jerusalem artichokes, are likewise pointed out as proper articles for the same purpose, in times of great scarcity.

This gentleman, however, could not prevail upon the poor people to make this kind of bread, so strongly were they prejudiced against every other kind of bread than that made from flour.

[With respect to bread made of potatoes, turnips, &c. we are morally certain, it never will be much eaten by the poor labouring people in England. With them, bread may be truly called *the staff of life*, they eat so little, comparatively speaking, of any thing else. It is in vain, and perhaps absurd, to talk of the wretched miserable state of the poor peasants either in Ireland or in any other country. We are not certain that they are not equally prejudiced in favour of their diet, however meagre it may seem, or that they would not be equally averse to live upon worse food. Gentlemen, who can have their tables daily supplied with almost every thing to eat or drink which the earth affords, may recommend potatoe-bread to poor people, as wholesome and palatable; and yet, they would not eat this only, notwithstanding they may have every other delicacy to supply the want of wheaten-bread.]

Art. 22. *A letter on the manner of improving poor Lands in Thanet, at some distance from the sea, by sowing Saintfoin, &c.*

[There is nothing in this letter but what is very familiar to Farmers.

The editors lay it down as a doctrine which few Farmers understand, that trefoil sown alone, would do much better, and be more advantageous to them, than if sown with spring corn. If they do understand it, they will not practise it, for the best reason in the world. A nobleman, or gentleman of fortune, may talk at this rate; but no practical husbandman will ever listen to such advice.

Again; they prefer rolling wheat in the spring to turning sheep upon it, which, they say, is a practice in general not to be approved of; for it very seldom does any good, and often a great deal of hurt to the crop.—And yet this is practised by the best Farmers in Hampshire.]



Art. 23. *A Letter from a Berkshire Farmer, recommending a very easy method of increasing the milk of cows.*

IT was, says the letter-writer, many years before I thought of giving my malt-dust to my cows; but when I did, I found it answer to admiration; it made them give much more milk; the milk was of a better quality, had no bad taste, and made excellent butter.

My way is, to give each cow half a peck in the morning when she gives her first meal, and as much when she is milked in the afternoon. My cows look sleeker, and are in better order than ever they were before they were thus managed, and when they fall off their milk, they fatten kindlier than cows in general do.

Art. 24. *A Letter on an improved method of breeding Seed-Wheat.*  
By an ESSEX FARMER.

TEN acres of the best land were selected, five of the heavy and five of the light land. Having prepared the land well by frequent plowings, he sowed the heavy land with the best wheat he could procure from Hertfordshire, and the light land with wheat that was sent him from Cambridgeshire. The wheat was well washed, but not brined, and then a little flaked lime was sprinkled upon it.

The wheat was sown in rows, and early in the spring, the corn on the heavy land was dressed with wood-ashes, and the light land with foot. As soon as any weeds appeared, the intervals were constantly stirred with the plow and hand hoe; and when the wheat began to spindle, the rows were well earthed up. The ten acres yielded about forty quarters of fine seed wheat; his heavy lands he sowed with the seed produced by his light field, and his light lands were sowed with that produced by the heavy field.

The next year, the intervals in the same fields were sowed with a second crop, managed in every respect like the former; but the third year he changed the fields. In this manner he continues to raise his seed wheat; taking particular care not to raise it on land that has been lately dunged, but such as is in its own nature rich and good.

[This is certainly a good method of breeding seed wheat, as some Farmers call it. In some places it is generally practised; but others seem strangers to it. We must, however, observe, that in many parishes, the sinat will be produced, if the seed-wheat is not every year brought from some considerable distance.

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The editors, with great propriety, recommend *washing* wheat before sowing, to prevent the smut; but they are not quite so happy in their conjectures, when they say it is scarcely possible to plow lands too much; this is true of some lands, but not of all; and the distinction is essential; but this has been noticed and accounted for in this Magazine. Neither is their remark a practical one, (for experience could, in many instances, have proved the contrary), that any soil which is proper for wheat, will produce barley and oats to advantage.]

ARTICLE XIII.

MR. AGRICOLA SYLVAN,

I Inclose you an excellent little piece, which I make no doubt will be much liked by all your sober, serious readers.

W—SHIRE.

AN OLD FARMER.

*The Way to Wealth, as clearly shewn in the Preface of an old Pennsylvania Almanack, entitled,*

"POOR RICHARD IMPROVED."

I HAVE heard, that nothing gives an author so great pleasure, as to find his works respectfully quoted by others. Judge, then, how much I must have been gratified by an incident I am going to relate to you. I stopped my horse lately where a great number of people were collected, at an auction of merchants goods. The hour of sale not being come, they were conversing on the badness of the times, and one of the company called to a plain, clean old man, with white locks, 'Pray father Abraham, what think you of the times? Will not these heavy taxes quite ruin the country? How shall we be ever able to pay them? What would you advise us to?'—Father Abraham stood up, and replied, 'If you would have my advice, I will give it you in short; "for a word to the wise is enough," as poor Richard says.' They joined in desiring him to speak his mind; and gathering round him, he proceeded as follows:

'Friends, said he, the taxes are, indeed, very heavy, and, if those laid on by the government were the only ones we had to pay, we might more easily discharge them; but we have many others, and much more grievous to some of us. We are taxed twice as much by our idleness, three times as much by our pride, and four times as much by our folly; and from these taxes the commissioners cannot ease or deliver us, by allowing an abatement. However, let us hearken to good advice, and something may be done for us, "God helps them that help themselves," as poor Richard says.'

'It would be thought a hard government that should tax its people one tenth part of their time, to be employed in its service: But idleness taxes many of us much more; sloth, by bringing on diseases, absolutely shortens life. "Sloth, like rust, consumes faster than labour



labour wears, while the used key is always bright," as poor Richard says. "But dost thou love life, then do not squander time, for that is the stuff life is made of," as poor Richard says.—How much more than is necessary do we spend in sleep! forgetting that "the sleeping fox catches no poultry, and there will be sleeping enough in the grave," as poor Richard says. "If time be of all things the most precious, wasting time must be," as poor Richard says, "the greatest prodigality;" since, as he elsewhere tells us, "Lost time is never found again; and what we call time enough, always proves little enough." Let us then up and be doing, and doing to the purpose; so by diligence shall we do more with less perplexity. "Sloth makes all things difficult, but industry all easy; and, he that riseth late, must trot all day, and shall scarce overtake his business at night; while laziness travels so slowly, that poverty soon overtakes him. Drive thy business, let not that drive thee; and, early to bed, and early to rise, makes a man healthy, wealthy, and wise," as poor Richard says.

'So what signifies wishing and hoping for better times? We may make these times better, if we bestir ourselves. "Industry need not wish; and, he that lives upon hope, will die fasting. There are no gains without pains; then help hands, for I have no lands," or, if I have they are smartly taxed. "He that hath a trade, hath an estate; and he that hath a calling, hath an office of profit and honour," as poor Richard says; but then the trade must be worked at, and the calling well followed, or neither the estate nor the office will enable us to pay our taxes.—If we are industrious, we shall never starve; for, "at the working man's house hunger looks in, but dares not enter, nor will the bailiff or the constable enter," for industry pays debts, while despair increaseth them." What though you have found no treasure, nor has any rich relation left you a legacy, "diligence is the mother of good luck, and God gives all things to industry. Then plough deep, while sluggards sleep, and you shall have corn to sell and to keep." Work while it is called to-day, for you know not how much you may be hindered to-morrow. "One to-day is worth two to-morrows," as poor Richard says; and farther, "never leave that till to-morrow, which you can do to-day." If you were a servant, would you not be ashamed that a good master should catch you idle? Are you then your own master? be ashamed to catch yourself idle, when there is so much to be done for yourself, your family, your country, and your king. Handle your tools without mittens; remember, that "the cat in gloves catches no mice," as poor Richard says. It is true, there is much to be done, and, perhaps you are weak handed; but stick to it steadily, and you will see great effects; for "constant dropping wears away stones; and, by diligence and patience, the mouse eat in two the cable; and, little strokes fell great oaks."

'Methinks I hear some of you say, "must a man afford himself no leisure?"—I will tell thee, my friend, what poor Richard says; "employ thy time well, if thou meanest to gain leisure; and, since thou

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art not sure of a minute, throw not away an hour." Leisure is time for doing something useful; this leisure the diligent man will obtain, but the lazy man never; for, "a life of leisure and a life of laziness, are two things. Many, without labour, would live by their wits only, but they break for want of stock;" whereas, industry gives comfort, and plenty, and respect. "Fly pleasures, and they will follow you. The diligent spinner has a large shift; and, now I have a sheep and a cow, every body bids me good-morrow."

'But with our industry we must likewise be steady, settled, and careful, and oversee our own affairs with our own eyes, and not trust too much to others; for, as poor Richard says,

"I never saw an oft-removed tree,  
Nor yet an oft-removed family,  
'That throve so well as those that settled be."

And again, "three removes are as bad as a fire;" and again, "keep thy shop, and thy shop will keep thee;" and again, "If you would have your business done, go; if not, send." And again,

"He that by the plough would thrive,  
Himself must either hold or drive."

And again, "the eye of a master will do more work than both his hands;" and again, "want of care does us more damage than want of knowledge;" and again, "not to oversee workmen, is to leave them your purse open." Trusting too much to others' care is the ruin of many; for, "in the affairs of this world, men are saved, not by faith, but by the want of it." But a man's own care is profitable; for, "if you would have a faithful servant, and one that you like, serve yourself. A little neglect may breed great mischief; for want of a nail, the shoe was lost; for want of a shoe, the horse was lost; and for want of a horse, the rider was lost," being overtaken and slain by the enemy; all for want of a little care about a horse-shoe-nail.

'So much for industry, my friends, and attention to one's own business; but to these we must add frugality, if we would make our industry more certainly successful. A man may, if he knows not how to save as he gets, "keep his nose all his life to the grindstone, and die not worth a groat at last. A fat kitchen makes a lean will." And

"Many estates are spent in the getting,  
Since women for tea forsook spinning and knitting,  
And men for punch forsook hewing and splitting."

"If you would be wealthy, think of saving, as well as of getting. The Indies have not made Spain rich, because her outgoings are greater than her inn-comings."

'Away, then, with your expensive follies, and you will not then have so much cause to complain of hard times, heavy taxes, and chargeable families; for

"Women and wine, game and deceit,  
Make the wealth small, and the want great."

And farther, "what maintains one vice, would bring up two children." You may think, perhaps, that a little tea, or a little punch  
now



now and then, diet a little more costly, clothes a little finer, and a little entertainment now-and-then, can be no great matter; but remember, "many a little makes a mickle." Beware of little expenses; "a small leak will sink a great ship," as poor Richard says; and again, "who dainties love, shall beggars prove; and moreover, "fools make feasts, and wise men eat them."

"Here you are all got together to this sale of fineries and nick-knacks. You call them *goods*; but if you do not take care, they will prove *evils* to some of you. You expect they will be sold cheap, and, perhaps, they may for less than they cost; but, if you have no occasion for them, they must be dear to you. Remember what poor Richard says, "buy what thou has no need of, and ere long thou shalt sell thy necessities." And again, "at a great penny-worth pause a-while." He means, that perhaps the cheapness is apparent only, and not real; or the bargain by straitening thee in thy business, may do thee more harm than good. For in another place he says, "many have been ruined by buying good penny-worths." Again, "it is foolish to lay out money in a purchase of repentance;" and yet this folly is practised every day at auctions, for want of minding the almanack. Many a one, for the sake of finery on the back, have gone with a hungry belly, and half starved their families; "silks and satins, scarlet and velvets, put out the kitchen fire," as poor Richard says. These are not the necessities of life; they can scarcely be called the conveniences; and yet only because they look pretty, how many want to have them? By these, and other extravagancies, the genteel are reduced to poverty, and forced to borrow of those whom they formerly despised, but who through industry and frugality, have maintained their standing; in which case it appears plainly, that, "a ploughman on his legs is higher than a gentleman on his knees," as poor Richard says. Perhaps they had a small estate left them, which they knew not the getting of; they think "it is day, and will never be night; that a little to be spent out of so much is not worth minding; but always taking out of the meal-tub, and never putting in, soon comes to the bottom," as poor Richard says; and then, "when the well is dry they know the worth of water." But this they might have known before, if they had taken his advice: "If you would know the value of money, go and try to borrow some; for, he that goes a borrowing, goes a sorrowing," as poor Richard says; and, indeed, so does he that lends to such people, when he goes to get it again.—Poor Dick farther advises and says,

"Fond pride of dress is sure a very curse;

Ere fancy you consult, consult your purse."

And again, "Pride is as loud a beggar as want, and a great deal more saucy." When you have bought one fine thing, you must buy ten more, that your appearance may be all of a piece; but poor Dick says, "it is easier to suppress the first desire, than to satisfy all that follow it:" and it is as truly folly for the poor to ape the rich, as for the frog to swell, in order to equal the ox.

"Vessels large may venture more,

But little boats should keep near shore."

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It is, however, a folly soon punished; for, as poor Richard says, "pride that dines on vanity, sups on contempt; pride breakfasted with plenty, dined with poverty, and supped with infamy." And, after all, of what use is this pride of appearance, for which so much is risked, so much is suffered? It cannot promote health, nor ease pain; it makes no increase of merit in the person, it creates envy, it hastens misfortune.

But what madness must it be to *run in debt* for these superfluities? We are offered, by the terms of this sale, six months credit; and that perhaps has induced some of us to attend it, because we cannot spare the ready money, and hope now to be fine without it. But, ah! think what you do when you run in debt; you give to another power over your liberty. If you cannot pay at the time, you will be ashamed to see your creditor! you will be in fear when you speak to him; you will make poor pitiful sneaking excuses, and by degrees come to lose your veracity, and sink into base, downright lying; for, "the second vice is lying, the first is running in debt," as poor Richard says; and again, to the same purpose, "lying rides upon debt's back;" whereas a free-born Englishman ought not to be ashamed nor afraid to see or speak to any man living. But poverty often deprives a man of all spirit and virtue. "It is hard for an empty bag to stand upright." What would you think of that prince, or of that government, who should issue an edict forbidding you to dress like a gentleman or a gentlewoman, on pain of imprisonment or servitude? Would you not say that you were free, have a right to dress as you please, and that such an edict would be a breach of your privileges, and such a government tyrannical? And yet you are about to put yourself under that tyranny, when you run in debt for such dress! Your creditor has authority, at his pleasure, to deprive you of your liberty, by confining you in a gaol for life, or by selling you for a servant, if you should not be able to pay him. When you have got your bargain, you may perhaps think little of payment; but, as poor Richard says, "Creditors have better memories than debtors; creditors are a superstitious sect, great observers of set days and times." The day comes round before you are aware, and the demand is made before you are prepared to satisfy it; or, if you bear your debt in mind, the term, which at first seemed so long, will, as it lessens, appear extremely short: time will seem to have added wings to his heels as well as his shoulders. "Those have a short Lent, who owe money to be paid at Easter." At present, perhaps, you may think yourselves in thriving circumstances, and that you can bear a little extravagance without injury; but

For Ireland want save while you may.

"No morning sun lasts a whole day."

Gain may be temporary and uncertain, but ever, while you live, expence is constant and certain; and, "it is easier to build two chimnies, than to keep one in fuel," as poor Richard says: So, "rather go to bed supperless, than rise in debt."



"Get what you can, and what you get hold,

'Tis the stone that will turn all your lead into gold."

And when you have got the philosopher's stone, sure you will no longer complain of bad times, or the difficulty of paying taxes.

"This doctrine, my friends, is reason and wisdom: But, after all, do not depend too much upon your own industry, and frugality, and prudence, tho' excellent things, for they may all be blasted without the blessing of heaven; and, therefore, ask that blessing humbly, and be not uncharitable to those that at present seem to want it, but comfort and help them. Remember, Job suffered, and was afterwards prosperous."

"And now to conclude, "experience keeps a dear school; but fools will learn in no other," (as poor Richard says) and scarce in that; for, it is true, "we may give advice, but cannot give conduct:" However, remember this, "they that will not be counselled, cannot be helped;" and farther, that "if you will not hear reason, she will surely rap your knuckles," as poor Richard says."

Thus the old gentleman ended his harangue. The people heard it, and approved the doctrine,—and immediately practised the contrary, just as if it had been a common sermon; for the auction opened, and they began to buy extravagantly.—I found the good man had thoroughly studied my almanacks, and digested all I had dropt on those topics, during the course of twenty-five years. The frequent mention he made of me must have tired any one else; but my vanity was wonderfully delighted with it; tho' I was conscious that not a tenth part of the wisdom was my own, which he ascribed to me, but rather the gleanings that I had made of the sense of all ages and nations. However, I resolved to be the better for the echo of it; and tho' I had at first determined to buy stuff for a new coat, I went away resolved to wear my old one a little longer. Reader, if thou wilt do the same, thy profit will be as great as mine.

I am, as ever, thine to serve thee,

RICHARD SAUNDERS.

#### ART. XIV. *Observations on Potatoes, and their Cultivation.*

Mr. SYLVAN,

I Beg you to insert the following observations on Potatoes and their cultivation, as they are the result of experience, and may be servicable to your readers. I wish they had been sent last month, but I could not get them wrote time enough.

I am your well-wisher,

C. THOMPSON.

There are very few vegetables of so great importance to the public as potatoes, or of so great advantage to individuals, who raise them; and a general cultivation of them cannot be too much enforced, whether we consider them as an article of food for ourselves or our cattle; whether as a garnish at the tables

tables of the rich, or a succedaneum for wheat bread in the cottage of the poor; the profit to the planter who takes a little care is amazing, having known often from twenty to thirty pounds neat profit from an acre of ground.

Mr. Miller classes the potatoe as a lycopersicon; Gerard calls it *Battata Virginiana*, vel *Pappus*, which perhaps is the most proper name. The best sort is a native of Virginia, and brought first from thence in the reign of James I. by Sir Walter Raleigh, who, touching at Ireland, left some among the inhabitants, who presently found their value, and exceedingly promoted their cultivation; and they have continued in uninterrupted use to this day. In England, they met with a different and undeserved reception, being accounted only proper for the poor, and totally unworthy to be placed on the tables of the rich.—The mist seems now apace dispersing, and the rich no longer consider that food improper for themselves which nourishes the poor also.

In Johnson's edition of Gerard, we find the following accurate description of this plant, very soon after its introduction into England:

"Virginia Potatoe hath many hollow flexible branches trailing upon the ground, three-squared, uneven, and knotted or kneed in sundry places at certain distances; from the which knots cometh forth one great leaf, made of divers leaves, some smaller and others greater, set together upon a fat middle rib by couples, of a swart green colour, tending to redness; the whole leaf resembling those of the winter cresses, but much larger; in taste, at first, like grass, but afterwards sharp and nipping the tongue; from the bosom of which leaves come forth long and slender foot-stalks, whereon do grow very fair and pleasant flowers, made of one entire whole leaf, which is folded and plaited in such strange sort, that it seemeth to be a flower made of five sundry small leaves; the whole flower is of a light purple colour, striped down the middle of every fold, or well with a light show of yellowness, as if purple and yellow were mixed together; in the middle of the flower thrusteth forth a thick flat point all yellow as gold, with a small sharp green prick or point in the middle thereof—the fruit succeedeth the flowers, round as a ball, of the bigness of a little bullace or wild plumb, green at the first, and black when it is ripe, wherein is contained small white seed lesser than those of mustard. The root is thick, fat and tuberous, not much differing either in shape, colour, or taste from the common potatoes, having that the roots hereof are not so great or long; some



some of them are as round as a ball, some oval or egg-fashioned, some longer and others shorter, the which knobby roots are fastened unto the stalks with an infinite number of thready strings."

From what is above said, we may reasonably enough conclude that we had potatoes in England before America was discovered, and I am apt to think they are natives of Lancashire. In Gerard we read likewise that as a food or a meat for pleasure, it is equal in goodness and wholesomeness to the common potatoe, being either roasted in the embers or boiled and eaten with oil, vinegar, and pepper, or dressed any other way by the hand of some cunning in cookery.

Having said thus much of the natural history of the potatoe, it remains for us to say something of the cultivation, than which nothing is easier, and there is no kind of land but they may be raised in; a light sandy soil which has depth enough is the best.

There are several sorts of potatoes in use amongst us, but the most esteemed are the smooth white, the rough red, and kidney potatoes. They almost all will thrive in any kind of land, except the last, which requires a good light mould to flourish in to advantage.

A Farmer, who has a piece of ground which he would wish to sow with wheat at Michaelmas, cannot crop it with any thing better than potatoes, even peas are not better, as I have several times experienced; nor need he be under the least concern for fear of raising too many; as, if his family will not be able to eat the whole, they afford a most excellent food for store pigs, equal to beans or any other pulse, raw as they are; if boiled where firing is cheap, and mixed with an equal quantity of barley-meal, or maize-ground, they afford a cheap and most excellent lasting meat, especially for young hogs or porkers. — Cows are sometimes fond of them, and when they will eat them, they afford a nourishing diet and plenty of milk, sweet and good at a time when turnips give the milk and butter a bad taste, and will also last longer than turnips good. — When boiled and mixed with a little pot-liquor, they are an excellent food for dogs; and the seeming injury done to mankind by the most faithful brute in the creation, in eating what might be given to the poor, is hereby lessened to a nullity; as the cheapness of the article will certainly afford the faithful companion of our sport or our travel a little food, when his raiment is supplied by the Great Father of all, at no expence to us.

Another

Another advantage is, the ease with which they are propagated. I think the best way is, to plough the ground where it can be conveniently done, twice, deep as possible, then harrow it, and with an iron crow make holes at the distance of a foot apart, in rows two feet and a half from each other; these holes should be six inches deep, and a whole potatoe dropped in and covered over.—If the ground is meant afterwards to be sown with wheat, the land should be dunged before the ploughing, and the crop of potatoes will be the larger, though they will not taste so well.—And this will hold good in every kind of garden stuff, as every one must know who has ever tasted the difference.—As soon as they begin to put forth their leaves above ground, they should be carefully cleaned from weeds and flat hoed, in a little time they should be hoed again, and the earth drawn up to the plants. Sometimes they require a third hoeing, and they will richly pay for it, and the land will be in excellent order for any other crop after it.

The particular time for planting is the latter end of March, or the beginning of April.

Perhaps it may be said I have dated the planting the crop too late for early potatoes. I allow it; but am speaking of the general crop only; where they are wished earlier, they may be planted in February, and the small thin-coated sort will be a very great delicacy in June.

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*ART. XV. Remarks, with Queries, respecting the Improvement of Poor Pasture Land.*

SIR,

I Here send you an account of the common method of planting and managing hedges for the new enclosures in several parts of the West-riding of Yorkshire; and also some experiments, which have been made by myself, and some of my brother Farmers, in order to try whether a more expeditious way might not be discovered.

The common method is as follows: When the ground is divided by posts and rails, the owners of the fences contract with workmen to plant the fence, at a certain price by the acre of twenty-eight yards. The planters to find the sets, and to put a number before agreed upon (commonly from six to nine) in every yard. The men begin with digging the ground where the fence is to be, two spits (about sixteen inches) deep. They then make a ditch two other spits in breadth, and lay the sod across the ground first digged, with the



the grafs side downwards. Between the fods thus placed, the fetts after they have been cut off within a few inches of the roots are planted. The operation is finished by taking a little more earth out of the ditch, and laying it upon the fods, so as to make the outsides higher than the middle. This is done that the plants may have the rain, &c. conveyed to their roots.

Several inconveniences attend this way of planting. The men never stay to clean the ground, altho' it is frequently filled with twitch or couch grafs and other bad weeds: Therefore the young plants are in great danger of being smothered unless they are constantly attended, an expence which few tenants chuse to be at.—Nor is the ground properly levelled before it is planted, tho' the fence often runs directly overcross the old lands. On this account only a few plants upon the ridges grow, while those upon each side, being near to the clay or gravel, perish. The making a ditch at least ten inches deep so near the roots, is in dry or sandy land quite wrong, as in such circumstances, it is impossible the plants should thrive for want of a proper degree of moisture. Add to this that the planters are never careful to chuse their fetts of an age, but plant promiscuously of all ages from two to eight years old.—These disadvantages, and others which might be mentioned, induced me to deviate in some particulars from the common practice, and having the pleasure to find my experiments succeed, I venture thro' the channel of your useful magazine to lay them before the public.

The first thing I did was to make a nursery for the raising my quicksetts. This was chosen at the end of a field which had been sown with turnips the preceding summer and eaten off with sheep.—About the middle of January it was plowed as deep as the soil would admit; and in February, after harrowing it level, it was properly laid out for the intended purpose. The haws which had lain in the ground the usual time (or as the gardeners term it had been couched) were then sown. But as I expected our fields and wastes would be inclosed before my plants were fit to remove, I purchased some two-year-old fetts of a neighbouring gardener. These were planted about four or five inches square in my nursery, where they remained until they were wanted. The succeeding autumn our fields were divided, when I began to prepare the ground where my fences were to be, in the following manner. The plowman was ordered to plow about five feet broad as deep as the soil was good, beginning at the outsides: Where the fence was to cross the old lands, another plow followed the first in the same furrow, taking hold only on the ridges, but going empty

empty on each side. By this means the ridges were plowed twice the usual depth, which greatly facilitated our labour in levelling them afterwards. Early in the spring the ground was plowed again, beginning at the middle, and a few weeks afterwards was harrowed six or eight times in a place, when part of the twitch &c. with which it abounded, was gathered and burnt. In March the plowing and harrowing were repeated, and the ground brought into pretty good order, and about ten cart loads of manure for every statute acre were laid on. Another slight plowing was now given, after which potatoes were dibbled, in rows (overcross) about two feet asunder.

During the succeeding summer, they were carefully weeded &c. and about the middle of October, were taken up with three-grained forks. Where the fence crossed the old lands, the workmen had orders to begin in the furrows, and to work backwards up to the ridge, at the same time endeavouring to throw the earth down, as much as possible. After the roots were thus taken up, the harrows went over again, and the haulm, weeds, &c. being gathered carefully off, were burnt.

It was then plowed and in excellent order for planting with quicksets, which was performed in the following spring. I have before said that plants were in the nursery to be ready. They were now about forty inches high, and four years old. These were carefully taken up, and only the strong side-branches pruned, after which they were planted into the prepared ground six in every yard. Where the ground was dry they had no ditch, but in places where it was moist, a small one was made.

The labourers who planted the old way laughed at me for manuring the ground, and planting with the tops on. They are now however forced to confess that the method I and my friends took, is much superior to theirs, since in point of size, ours is at least four years before most of the other farmers, tho' they planted near fifteen months before us.—I have also tried to replant any dead places in my old fences with equal success. The ground was prepared the same as before except the manure, but I managed the sets something different. Those intended for this use were planted in the nursery, in rows three feet asunder, and six inches plant from plant.—In this situation they remained until they were six or seven years old, and then after being slightly pruned, were set in the places that wanted them. By this means, a deal of trouble and expence was saved in weeding, since they could be much sooner cleaned in the nursery, than in an old hedge bottom, where all kinds of weeds had the opportunity of shedding their seeds.

A friend



A friend of mine who is fond of making experiments, advised me to try to raise hedges by sowing their seeds where they are to remain. I have done this round my nursery, and the plants thrive prodigiously. Where the ground has only annual weeds to keep down, I think this method will save a deal of time. But it cannot be tried with any probability of success without constant hoeing.—Indeed whether hedges are made in the old way, or any other, unless they be taken care of for some years at the first, it is to little purpose to plant at all.

E—T—R.

W—ll, near Barnsley, Feb. 9th, 1777.

P. S. It would be of great service and advantage to husbandry if you would request your correspondents to send you an account of the common method of farming, as practised by a whole parish together, in any part of England.—For this purpose, the following queries might be useful, viz.—soil, —fallow, —course of crops, —average produce, —size of farms, —rent, —stock, —average price of labour and implements, —taxes.—If this meets with your approbation, I will endeavour to send you an account of above particulars in my neighbourhood.

[Our Remarks will be unnecessary, till we have compleated our account of planting hedges, when we shall likewise extend them to planting and pruning Timber-Trees.]

#### ART. XVI. *Experiments on raising Quickset Fences.*

To the EDITOR of the FARMER'S MAGAZINE.

Mr. SYLVAN,

I HAVE many acres of very poor pasture land upon a strong, and in some parts, spewy clay, which now let for little more than four shillings per acre; I have thought of different schemes to improve them: Some of which, by means of your truly useful Magazine, I wish to communicate to the lovers of agriculture, not without hopes of profiting by the advice of your ingenious correspondents.—I live in a country where fuel of all kinds is exceedingly dear, consequently have thought my land could not be made more beneficial to the public and myself, than by planting wood or sowing furze thereon.

From the produce of some adjacent grounds, I am fully satisfied, coppice wood, ash or withy, and furze, would flourish well upon mine; perhaps a mixture of all, properly and locally placed, might be the best plan.

Now

Now I beg to be informed of the best method of preparing my land for the above purpose, and the cheapest manner of executing it. — Some of your friends will, I trust, inform me, through the channel of your Magazine, of what I want to know: they may, perhaps, not confine their ideas to what I have proposed, but give some new hints on the subject, which will be gratefully acknowledged. — French surze-seeds, I have been told, are the best: How long must I wait for the first cutting, and what produce must I reasonably expect? — By inserting this in your next number, you will greatly oblige your constant reader,

March 3d, 1777.

ETONENSIS.

**ART. XVII. Peculiar method of keeping Cows in Sweden, in the Winter Season.**

**I**N Sweden, in the winter season, when grass is not to be had, the Farmers give their cows hay-tea, that is, a handful of hay boiled in about a pail of water. This nourishes and comforts them greatly, and makes them give more milk than at any other season of the year.

**ART. XVIII. Useful FORMS in CONVEYANCING, &c. for Men of Business. Continued.**

**Of Acceptance.**

**T**HE person who receives the bill, is called the holder, or possessor, or presenter. If he thinks proper to carry the bill for acceptance, (which some do and some do not) the person on whom it is drawn, accepts it, by writing upon the bill, accepted, and then adding his name; but if he refuses to accept the bill, it is usual in the way of trade to return it to the person of whom it was received; though it is not uncommon to keep a bill till it is due, if there are any hopes of its being then paid. But if a bill be drawn at sight, or any number of days after sight, the acceptance is absolutely necessary, because the time of the payment of the bill depends upon the acceptance. It must likewise be observed, that if a bill is paid in consequence of a forged indorsement or acceptance, the person who thus paid it stands obliged to pay it over again.

of



*Of Usance.*

The Usance, or usage of merchants, with respect to foreign bills of exchange to and from London to Rotterdam, Antwerp, or any part of the Low Countries, is one kalendar month after the date of the bill; two usance, or double usance, is two months, &c.

Usance from Hamburg, Copenhagen, Stockholm, Lubeck, and Straßburgh, to London, and contra, is also one month; but from London to Lisbon or Madrid is two months; to Leghorn, Venice, or any part of the Levant, is three months, and contra.

If therefore a merchant at any of the first-mentioned places draws at *usance*, the bill will be payable one month after date; at *two usance*, it is payable two months after date; the same rule is to be observed of the other places.

*Of the Days of Grace.*

After bills or drafts become due, whether payable at sight or otherwise, there are by custom of merchants certain days of grace allowed the acceptor, over and above the time prescribed by the bill, which are more or less according to the usage of the country where they are paid, which in London is always *three*; and on the third day, before sunset, payment must be demanded on the part of the presenter; and if not complied with, the bill must that very day (being the utmost time allowed by law for that purpose) be noted, in order to be protested for non-payment.

It is necessary to be somewhat more particular for the sake of young tradesmen, who commonly suppose that a month means four weeks, and that a bill is to be paid the same day on which it becomes due. If a bill be dated February the 20th, and drawn at one month after date, it will not be paid till the 23d of March; for a month means a kalendar month, and with respect to bills the same day of the next month, to which must be added the three days of grace, on the third day of which the bill is payable, and not before. It is safest to take a receipt on the back of the bill, tho' many pay no regard to it provided the bill be delivered up.

If a bill becomes payable on a Sunday or some great holiday, it is to be presented and paid, or protested, the day before. In any other case no bill ought to be paid before it be fully due; for should the person on whom it is drawn voluntarily pay it, and the person to whom it is paid should fail before it falls due, he will be liable to pay it a second time.

pre-

*Of Protesting.*

If a bill be not paid on the very day it falls due, it must be noted, that is, put into the hands of a notary-public by the presenter, in order to have a protest drawn up under a copy of the bill for non-payment. The bill is then returned with all the charges of noting, interest, &c. to the last holder, who returns it to the person of whom he received it; and he to the next, each indorser crossing or dashing out his name, till at last it comes back to the drawer, who is obliged to pay all the expences.

The *protest* gives the holder of the bill a security for both the principal and damages against the drawer and every one of the indorsers; so that if any one of them is responsible, he will be no loser; but a neglect of the protest leaves him without a remedy.

[*To be again resumed.*]

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ART. XIX. *Diseases of Cattle, continued, By C. Williamson.*

FRET.

THIS disorder is often a terrible one, and arises from over-driving, bad feed, &c. A common medicine, and frequently a successful one, is a little handful of foot in a pint of ale. This remedy is almost always to be had, and I wish it made public, as little preparation is required in the administration. If this should not however be successful, and the beast still continue in pain, let a purging or emollient clyster be given frequently.—The following balls may be also given one every three or four hours.

Diapente, half an ounce; Rhubarb, one dram; Saffron, half a dram; Laudanum, 60 drops; Conserve of Roses, enough to make a ball.

The beasts should be kept in a warm roomy stable or house with a bed of straw to lie down on, and have warm mashes frequently set before them. Their skins should be rubbed with a rough hair cloth all about their flanks and bellies, which would much assist to give the bowels their due tone.

[*To be continued.*]

ART. XX.



## ARTICLE XX.

S I R,

BY inserting the inclosed verses in your ingenious and very useful repertory, you will oblige its constant reader and admirer,

NORWICH, Feb. 18, 1777.

W. Y.

## S P R I N G.

STERN Winter now forsakes the plain,  
 Enchanting Nature smiles again;  
 Each tree its foliage re-assumes,  
 And new-born zephyrs breathe perfumes,  
 Where-e'er we turn our ravish'd eyes,  
 Luxuriant scenes of beauty rise;  
 The meadows now of lively green,  
 Before, a cheerless barren scene;  
 Each flow'ry border, trembling rill,  
 Each smiling vale, and airy hill,  
 Now all their various beauties boast,  
 Each seems to strive to please the most.

What joys await the Farmer's toil,  
 His hours of labour to beguile?  
 On ev'ry spray the feather'd throng,  
 Retune their half-forgotten song.  
 See! from the ground the Lark arise,  
 And soaring mock our wond'ring eyes;  
 Still as he soars his notes decay,  
 Till the faint warblings die away,  
 And when the sun's last glimm'ring beams  
 Bids him unyoke his weary team,  
 As homeward to his cot he fleers,  
 What transport ev'ry where appears?  
 Now in a sweeter wilder note  
 The Black-bird swells his tuneful throat;  
 Around, his fleecy charge are seen  
 Wide browsing o'er the tufted green;  
 Whose tender limbs in wanton play  
 Leap to and fro, and crook his way,  
 Their labour done, each youthful swain  
 Trips with his sweet-heart o'er the plain;  
 And joins the jovial rustic band,  
 That circling sport it hand in hand.

All

All Nature lost in sweet repose,  
The peaceful night no tumult knows:  
Nothing awake, but Philomel,  
Whose plaintive music seems to tell,  
By what untimely fate she fell:  
All night she tunes her woe-fraught lay,  
But bashful, shuns th' approach of day.

The Bee, as if but now alive,  
Early forsakes the busy hive;  
From flow'r to flow'r the insect fleets,  
And from the bitter culls the sweets.  
How happy for too thoughtless man!  
Wou'd he, like it, improve his span!  
In virtue's search wou'd thus delight,  
And, where the good and bad unite,  
Virtue shou'd meet distinction find,  
And odious vice be left behind,

## S U M M E R.

SEE! Summer comes with roses crown'd,  
Exulting o'er th' enamell'd ground!  
Now longer furs, and warmer skins  
Bid Nature in perfection rise:  
The fruitful trees that erst were seen,  
Gay-deck'd in livery of green,  
Chequer'd with blossoms now appear,  
The beauteous promise of the year.

Ere yet Aurora chase the dews,  
The far-drawn matin song renews;  
And seems to chide the swains' delay,  
To lose so sweet a part of day.  
The village maids, whose toils dispense  
The joys of health and innocence,  
In chearful crowds now seek the fields,  
To reap the harvest Summer yields.  
While Nature so delightful reigns,  
Luxuriant thus o'er hills and plains,  
Ye, whom a more indulgent fate  
Has plac'd amongst the good and great,  
Quick to your villas hasten down,  
What joy's within the smoky town?  
Down ev'ry vale, and ev'ry hill,  
Or winds the sweetly-gurgling rill,



Or spreads the fragrant-breathing flow'r,  
Or forms th' impenetrable bow'r.

Hark! how the feather'd choir complain,  
Each in a variegated strain!  
Some wanton, hop from spray to spray,  
Enchanting in a sprightly lay;  
Others, whose young (their only joy)  
Have perish'd by some cruel boy,  
Of all their hopes at once betray'd,  
Fly to some solitary shade,  
There breathe (poor birds) the tender throe,  
And charm us with melodious woe.

Man may, in scenes of ev'ry kind,  
Fit lessons of instruction find:  
The bird, for injury and wrong,  
Re-pays th' oppressor with a song;  
Oh! blush to think that Heav'n inspir'd  
Thy breast shou'd be with malice fir'd!  
Learn, hence, thy passion to restrain;  
And still that god-like rule maintain,  
To seek no vengeance on a foe,  
But bless the hand that gives the blow,

## A U T U M N.

**W**ARM'D by the sun's effulgent blaze,  
Now, Autumn all its store displays;  
Here Ceres, goddess heav'nly fair,  
Auspicious reigns; Pomona there:  
The blossom, that, by zephyr's nurs't,  
Labour'd the swelling bud to burst;  
That, cheer'd by Phœbus' genial pow'r,  
Summer beheld a blooming flow'r;  
Now ripe, it's blushing honours bears,  
Still lovelier in each shape it wears.

Now to the golden fields repair,  
The jolly swain and buxom fair;  
Content the while stands smiling round,  
Chearful they clear the cumber'd ground;  
With harmless chat beguile the day,  
Till setting Phœbus calls away.

Autumn, benign in ev'ry kind,  
Re-pays the labours of the hind:  
Whether he toil'd upon the plain,  
For waving crops of yellow grain,

Or

Or yet delighted to entwine  
The tendril with the creeping vine.  
But Nature 'erst so blyth and gay,  
Alas! must sicken, and decay:  
E'en now it languishes; for see  
The wither'd leaves on ev'ry tree!  
Already are the Roses fled;  
The conscious Lilly droops it's head  
To see it's beauteous fellows flown,  
And by their fall foretells it's own.  
Thus all things, humble or sublime,  
Must feel th' all-conqu'ring hand of time.

Th' industrious Ant, by Nature taught,  
With more than common prudence fraught,  
Lays up secure an annual store;  
(It's little date, perhaps no more.)

Wou'd Man, (who lord of all presides,  
Alone whom Reason's influence guides,  
Whom Heav'n, in mercy unconfin'd,  
For nobler purposes design'd)  
Thus hoard against that common fate,  
We all must prove or soon or late;  
How calm might he resign his breath,  
And smiling meet the arm of death!  
With joy, his soul to Heav'n commend,  
And fearless face his latter end.

## W I N T E R.

OLD Time, alas! with stealing pace,  
Now changes Nature's blooming face:  
No more the beauties of the Spring  
Delight, no more the warblers sing:  
No more the flow'rets deck the ground,  
No more is rural pleasure found.  
The breeze that fann'd the rustling glade,  
The woodbine bow'r, the poplar shade,  
And fragrant sweets arising there,  
That wide perfum'd the ambient air,  
Are banish'd all; and all that's gay,  
Stern Winter now has swept away.  
The verdant grove, where oft I've stray'd,  
The matted grass whereon I've laid;

The



The rill, which putt'd so clear before,  
 Congeal'd in ice, delights no more:  
 Phœbus too, glory of the skies,  
 Who bids the meads, the flow'rs arise,  
 Deserts us now, as if afraid  
 To view the change by Winter made.  
 While he maintains his rigid reign,  
 Progne forsakes the chearless plain;  
 To southern realms remote he flies,  
 To more auspicious, warmer skies:  
 Whilst we are left behind to bear  
 Th' unwholesome rigour of the air.  
 Then say, and is there nought to find,  
 To warm the man, to soothe the mind?  
 The grape remains; fill high the bowl;  
 This still can animate the soul.

Just emblem of our station here,  
 Appears each circulating year;  
 Man surely reaps the seed he sows,  
 And error's sown where error grows:  
 Then learn the Spring of life to improve,  
 And ev'ry noxious weed remove;  
 Sow nought but seeds of prudence there,  
 And these will well repay thy care;  
 Then, when thy Summer's sun is fled,  
 And Autumn silvers o'er thy head;  
 When Winter's frosts shall freeze thy veins;  
 (Tho' rack'd with age-attending pains,  
 The glad remembrance of the past,  
 Shall sweeten life, while life doth last.



P. S. Altho' I acquiesce with your British-American correspondent, that Poetry ought to give place to more useful matter, yet, if you can find room for the inclosed Seasons, (being very a-propos, and prettily written) they will, I doubt not, afford a pleasure to most of the readers of your Magazine. —I cannot think, as your above-mentioned correspondent does, that it would be eligible to enlarge it to a 4to. as I believe nine in ten of its purchasers prefer it in its present form. —With respect to the other part of his advice, I think the improvements he proposes may be adopted with advantage; especially that of increasing the usual portion of the Dictionary.

If you pay a due attention to this, I may, perhaps, trouble you hereafter.

